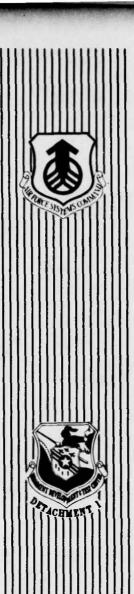
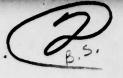
SCOTT ENVIRONMENTAL TECHNOLOGY INC PLUMSTEADVILLE PA F/G 21/5 U.S. AIR FORCE TURBINE ENGINE EMISSION SURVEY. VOLUME II. INDIV--ETC(U) AUG 78 A F SOUZA, P S DALEY F29601-75-C-0046 SET-1492-50-0877 CEEDO-TR-78-34-VOL-2 NL AD-A061 665 UNCLASSIFIED 1 of 2 A08 1665 1965

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## U.S. AIR FORCE TURBINE ENGINE **EMISSION SURVEY** VOL II INDIVIDUAL ENGINE TEST REPORTS

vol 3 - A061483

ANTHONY F. SOUZA SCOTT ENVIRONMENTAL TECHNOLOGY, INC. PLUMSTEADVILLE, PENNSYLVANIA 18949

PETER S. DALEY ENVIRONMENTAL ASSESSMENT RESEARCH DIVISION CAPP DIRECTORATE OF ENVIRONICS

**AUGUST 1978** 

78 77 27 065

FINAL REPORT FOR PERIOD JANUARY 1975-JUNE 1978

Approved for public release; distribution unlimited

# CIVIL AND ENVIRONMENTAL ENGINEERING DEVELOPMENT OFFICE

(AIR FORCE SYSTEMS COMMAND) TYNDALL AIR FORCE BASE FLORIDA 32403

UNCLASSIFIED SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered) READ INSTRUCTIONS REPORT DOCUMENTATION PAGE BEFORE COMPLETING FORM REPOR 2. GOVT ACCESSION NO. 3. RECIPIENT'S CATALOG NUMBER CEEDO-TR-78-34-VO TYPE OF REPORT & PERIOD COVERED U.S. AIR FORCE TURBINE ENGINE EMISSION SURVEY . Final Reporte VOLUME II. INDIVIDUAL ENGINE TEST REPORTS. 9075 June 1978 PERFORMING ONG. RE SET-1492-50-0877 B. CONTRACT OR GRANT NUMBER(A) Anthony F Souza USAF F29601-75-C-0046 Peter S. Daley PERFORMING ORGANIZATION NAME AND ADDRESS PROGRAM ELEMENT, PROJECT, TASK AREA WORK UNIT NUMBERS Scott Environmental Technology, Inc. Plumsteadville, Pennsylvania 18949 1. CONTROLLING OFFICE NAME AND ADDRESS August 1978 Det 1 ADTC Civil and Environmental Engineering Development NUMBER OF PAGES Office, Tyndall AFB, Florida 32403 167 14. MONITORING AGENCY NAME & ADDRESS(Lautter frolling Office) 15. SECURITY CLASS. (of this report) UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE 16. DISTRIBUTION STATEMENT (of this Report) Approved for public release, distribution unlimited. 17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, 11 different from Report) 18. SUPPLEMENTARY NOTES Available in DDC 19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Oxides of Nigrogen Gas Turbine Engines Smoke Afterburner Emissions Exhaust Emissions Particulates Carbon Monoxide Air Pollution Total Hydrocarbons 20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The gaseous exhaust emissions from 14 military gas turbine engines were measured

at various power levels from idle to full power including afterburning. SAE smoke number was determined. All measurements were made using the Air Force Mobile Emissions Laboratory which is a self-contained state-of-the-art gas turbine emissions test laboratory. Emission rates of hydrocarbons, carbon monoxide and oxides of nitrogen were calculated. The emission rate of sulfur oxides was estimated from fuel analyses.

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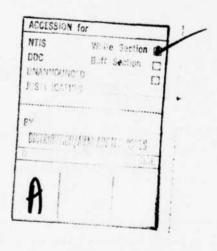
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Continued from Block 20.

The body of data was analyzed to show relationships among the data. These studies included the effect of power setting on emission index and smoke number, variation of gas concentrations across the exhaust plume and the degree of uncertainty introduced by abbreviated sampling methods. A summary table of "Best Estimate" emission factors for all the engines tested is provided.



#### PREFACE

This report was prepared by Scott Environmental Technology, Inc. under Air Force Contract Number F29601-75-C-0046. The work reported herein was administered under the direction of the Environics Directorate of the Air Force Civil and Environmental Engineering Development Office (Det 1 ADTC) with Major Peter S. Daley serving as Project Officer. Work was performed from January 1975 through June 1977. The engine test program was performed with the cooperation of the following Air Force organizations and private engine overhaulers; their excellent cooperation is gratefully acknowledged.

> Teledyne; Nesho MQ First Composite Wing; Andrews AFB MD Air Force Logistics Command; Kelly AFB TX Air Force Logistics Command; Tinker AFB OK Air Force Tactical Air Command Headquarters; Langley AFB VA General Electric Company; Lynn MA

This report is presented in three volumes. Volume I is an overall description of the work performed and the results obtained. A table of best estimate emission factors for Air Force gas turbine engines is presented in Volume I. Volume II contains the results of the individual tests of each engine. Volume III contains the Model Summaries which are statistical summaries of the test results by engine model.

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PETER A. CROWLEY, Major, USAF, BSC

Director of Environics

JOSEPH S. PIZZUTO, Col, USAF, BSC

Commander

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В	INDIVIDUAL ENGINE TEST REPORTS	ŗ

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APPENDIX A

ENGINE TEST LOG

	COMMENTS		PART.A/8										NO A/B	NO A/8	NO A/B	NO A/B		NO A/B		•	SHA-SAME WA															NO GOOD												
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	OATE	03/11/75	03/12/75	03/14/75	03/11/15	03/18/75	03/18/75	03/19/15	04/01/15	04/01/15	04/02/15	04/02/15	04/63/15	04/03/15	04/04/15	04/01/15	04/08/15	04/03/15	04/10/75	04/10/75	04/11/75	04/14/75	04/14/75	04/14/15	04/14/18	C5/02/15	05/05/15	05/06/75	05/08/75	05/12/15	05/13/75	05/15/75	05/15/15	05/27/25	05/21/15	05/28/75	05/28/75	06/16/75	06/19/75	06/23/75	51/52/90	06/25/75	06/25/75	07/01/75	01/15/15	07/11/75	67/18/75	07/22/15
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	ENGINE ZESTED	T56-A78	756-A7B	756-A78	756-A78	156-A7B	TS6-A78	15 39	7539	7 5 39	1639	1F33-P3	J75-19W	J75-19K	J75-194	7F33-P3	7F33-P3	J15-P17	J15-P17	7F 33-P7	1f 33-P3	7F 33-P3	J75-P17	J75-P17	7F 41-A1	7F 41-A1	7F 41-A1	7F41-A1	7F 41-A1	7F 41-A1	7F41-A1	J5794	JS1-194	J57-194	J57-43	157-43	J57-43	J57-43	357-43	7F33-P7	11 33-27	7F 33-P7	J57-F 43 WB	J57-194	JS 7-19"	7F 33-P3	TF 33-P7	7F33-P7	7f 30-P3
	OATE	07/22/75	07/24/75	08/04/75	08/06/75	08/06/15	08/08/75	08/28/15	09/11/15	10/01/15	10/03/75	02/03/76	32/04/76	02/04/16	02/00/20	02/10/76	02/10/76	02/11/76	02/11/76	02/12/16	02/21/16	02/21/76	02/22/16	02/22/16	03/08/76	03/10/76	03/10/76	03/12/76	03/12/76	03/15/76	03/16/76	03/20/16	03/20/16	03/21/76	03/21/16	03/21/16	03/28/76	03/28/16	03/28/76	04/01/16	04/01/16	91/20/40	04/63/76	04/04/16	04/04/16	04/00/10	04/09/10	04/01/16	04/13/76
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60	427	04/13/76	TF 30-P 100	679595	TINKER AFH	- 21	•		
80	428	04/14/76	1F30-P3	658705	TINKER AFE	14 2	4		
U	428	04/14/76	1F30-P3	658705		14			
89	429	04/11/16	1F30-P7	674984		16			
<	429	04/11/16	7F30-P7	674984		16			
20	4 30	04/19/76	7F 30-P7	675686	TINKER AFB	16 2	-		
Ų	4 30	04/19/76	1F30-P7	675686		16 2		. ~	
80	431	04/20/76	TF 30-P 7	615567	TINKER AFB	16 3		. ~	
80	4 32	04/21/76	1F 30-P 100	619619		15 2			
U	432	04/21/76	7F 30-P100	674679		15 2		. ~	
60	433	04/22/10	1F 30-P 100	679581		15	3	. ~	
<	434	04/23/76	1F30-P3	658713					
8	434	04/23/76	TF 30-P3	658713		7			
80	435	04/24/76	J57-P218	607168		17 1		17	
u	435	04/24/76	J57-P218	607168	TINKER AFB	17 1		17	
<	4 36	04/25/76	J57-P218	601217	TINKER AFB	17 2	A 4 17		
89	436	04/52/10	JS7-P218	607217	TINKER AFB	17 2	8 4 17		
8	437	04/26/76	257-P21B	602586	TINKER AFB	17 3	8 4 17	~	
<	438	34/27/76	1F 30-P 100	679747	TINKER AFB	15	A 4 18		
<b>6</b> 0	438	04/21/16	1F 30-P100	674747	TINKER AFB	15	4 18		
80	501	01/24/16	F100-PW100	650266	LANGLEY AFB	18	8 5 19	•	
<b>30</b>	205	07/21/16	F160-Pw100	683327		18 2	B 5 19	•	
60	503	01/30/16	F 100-PE 100	680208	LANGLEY AFB	18 3	8 5 1	61	
<b>6</b>	\$ O #	08/03/76	F160-P#100	680227		18	8 5 20	0	
80	505	92/90/80	F100-Pw100	680335	LANGLEY AFB	16 5	8 5 20		
<b>.</b>	\$08	08/09/16	F100-P#100	680305		18 5	C S 20		
<	206	08/12/76	F 100-P+100	6E0209	LANGLEY AFE	16 3	A \$ 21		
, n	203	08/13/76	F 160-PW 100	680209		18 3	5 \$ 21		STACK-10LE
5	208	08/14/16	F100-P#100	680239	LANGLEY AFB	16 3	\$ 5 22		STACK-802 0
<b>,</b>	506	08/14/76	F100-PW100	680239	LANGLLY AFB	16 3	\$ \$ 22		STACK-808 6
v	210	08/14/16	F100-Pw100	660209	LANGLLY AFE	16 3	\$ 5 22		STACK-HIL
۷.	109	08/30/76	1F 34-0E V	201625-4A	GL LYNN, MA	1 61	A 6 23		
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80	603	92/80/60	TF34-100	20505		20 1	8 6 2		
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හ	909	09/11/76	7F34-100	205081	GE LYNN, MA	20 3	8 6 27	_	
U	605	09/11/76	1634-100	205081	GE LYNN, MA	20 3	C 6 27		
30	909	09/15/76	1F 34-100	205084		20 4	9 9		
8	637	09/16/76	1F 34-100	20505		20 \$	8 6 2		
30	608	09/22/76	TF 34-100	205089		20 6	8 6 30		
<	609	09/24/76	1700	010-58	GE LYNN, MA	21 1	4		HEL TONP TER

### APPENDIX B

INDIVIDUAL ENGINE TEST REPORTS

ENGINE J69-T25

		•									
WEPORT DATE 12/15/75 USAF CONTRACT F296#1-75-C-##45	ENGINE 1. NUMBER 1	IEST LUCATION : TELEUTNE-NEU TEST CELL NUMBER :  TEST CELL OPERATOR : MAD SCUT SUPERATOR : 251	SMOKE UPERATOR : U.	FUEL ANALYSIS :	TYPE : DP-4			#1.6 SOLFOR : #.16	CZH KATIO-MASS: 5-13	NOX NO NOS PERO PERO PERO PERO PERO PERO PERO PERO	13.65 12.57 #.ee 2.4.39 15.98 #.ee 2.4.39 15.98
					G.F						3.28
r	7.5				S S LFM	TH ET.					573.54
561 1492-084-1275	TEST DATE: 3/11/75			SAMPLE LINE :	TEMPERATURE : 248 DEG.F	LENGIM : 1-0 FT.				DE LO	
261 14	TEST DATE			N.		_				# 10 d 13	1.767
										F/A CALC	212
				1	1125	34.5	8.63	SAI	d • 6 8 4 5	FIA	. 413 . 413
¥			EIO							AIR FLOW K/HR	1,300
Y INC.	ε	CS HRS. PASS	: פברר-את		1838	34.0	: 28.63	166	B . 4443	7.0EL 7.10% 7.10%	478
FECHNOLUGE MICSIONS T REPURI	1. ITPE "	3219#1 3219#1 JLTS : PA	METHUD:	CNULTIONS	1E) :	(J. 6)	(01.1.1)	 € !	. (Alk)	1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	700
MENTAL 1 ENGINE E		MUDEL : TIME : EST RESU	URL MENT	EVIAL CC	(MIL.TIP	TEMP. (DE	C PRESS.	HUMIDITY	COM HOW YOU DAY AIR) :	KATED THRUST	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
SCUTT ENVIRONMENTAL TECHNULUGY INC. USAF TURBINE ENGINE EMICSIONS INVENIONY INDIVIDUAL ENGINE TEST REPURI	SCUTT TEST WINNER	ENGINE TYPE & MODEL : J69-129 ENGINE SENIAL # : T-3219#1 TOTAL ENGINE TIME : # HKS- PEMFURMANCE TEST RESULTS : PASS	AIM FLUM MEASUREMENT METHUD : SELL-MUUIM	TEST ENVIRONMENTAL CONDITIONS :	TEST TIME (MIL.TIME) :	INLET AIR TEMP. (DEG.F) :	ATMUSPHENIC PRESS. (14. HU)	RELATIVE HOMIDITY (#)	CH MO	IEST MODE	NOWHAL MILITARY

CUZ	CUZ
2814 1.73	2814 1.73
3877 3.24	4.54 43.10 3877 3.24 1.69 1.5c
30.9H	30.98

EXHAUST MASS EMISSION INDICES :

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\*\* AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE AMEA-WEIGHTED.

USAF CONTRACT F29681-75-C-4846		TEST COATION TEST CELL TEST CELL TEST CELL SCOTT SI ANSTRUMENT SMOKE			SAMPLE # :	NORTH TARBON	WIT HYDROGEN	WI.A SULFUR :	C/H RATIO-MASS:	ON	Wdd	B.39 18.98 35.25	12.10	11.17	14.82 11.44 0.00				NO NOS	0.01		<b>8.58</b>	1.56	2.85 1.65 2.17
										XON	Mdd	11.29	13.81	18.58	26.26	37.12		# / HK	NOX	8.38	85.F	1.45	2.76	4.58
					4	1.0				200	HR.	2.18	2.83	2.11	2.56	2.9 B			200	697	858	1582	2577	3364
	•				23 LPM	30 000	•			5	Por	1411.44	862.88	516.18	475.71	415.46			00	28.8	28.6	56.3	34.5	38.6
PG-2	TE: 3/14/75			SAMPLE LINE :	FLOW RATE :	PENGTH : 1-4 FT	T. HIGHT			THE		412.93				14.87		*	I HC	4.82	3.59	3.89	1.40	N-63
SE1 14	TEST DATE			S						ă		1.431	1.854	1.256	1.542	1.737		***	705	1.52	1.05	1.68	1.44	1.52
										F / B	CALC	10	1 6	. 41	. 413	41 P.			SZ	58.6	4.14	1.12	1.01	2.03
					FINISH	1545	78.87	20.	8.6838	4/4	ACT	1 2	-316.	116.	- W12	<16.		UEL	HOX.	1.57	1.75	62.2	3.31	4.15
ž		ŗ			<b>.</b>		·			A	*/*	10250	23567	*#16+	67458	13850		18 :"# FUEL	2	:				91 4
INC.		ο Σ	1		Ç,	1458	28.85	100	8.4438	F. JEL	# /IK	24.4	B 7 7	520	H35	1,485		"	3		5		J.	7
SIONS I	3. TYPE &	40 m45.		I LOND :			. (6)		 ≎				981	394	747	165	otces :		3	119.74	98.6I	56.48	30.50	20.25
EMICAL SENICA	÷	321142 321142 550LTS		CUNUI		IME	10EG-1	€ .	CA HOPIGM DRY AIR) :	ISUSHI							10N 14E		110	24.47	12.38	56.5	1.20	¥.58
MENTAL ENGINE	MUEN	TIME STEEL	2	ENTAL	,	MIL	PRE C	10H101	101101	# # I E D	PUMER	3	* t	75	36	100	EMISSI	•		; ·`		'		
SCUIT EMMEMBATAL TECHNOLUGY INC. USAF TURBINE ENGINE EMICSIONS INVENTO INDIVIDUAL ENGINE TEST REPORT	SCUTT TEST HIMBER	ENGINE TIME & MUDEL : JAY-25 ENGINE SEPIAL #: 321142 TOTAL ENGINE TIME : PERFORMANCE TEST RESULTS : PASS	ALT FLOW TEA	TEST ENVIRONMENTAL CONDITIONS :		TEST LIME (MIC. LIME)	STADAPHENIC PRESS. (14-16)	MELATIVE HOMIOITY (*)	SH HO	7.47	300	1015	INTERMED. 1		NOTABL	MILITANY	EXMAUST MASS EMISSION INDICES			10LF	INTERMED.	INTERMED. 2	ROKMAL	MILITANY

USAF TURBINE ENGINE EMIKSTUNS TAVENTORY TADIVIDUAL ENGINE TEST PEPURI	ENGINE ES	Alestons T PEPURI	TAVENTO	ř							Avo	CONTRAC	T F296#1	USAF CONTRACT F296#1-75-C-#846	ç.
SCUTT TEST NUMBER 4. TITE B ENGINE TIPE & MUDEL : JSY-162 ENGINE SERTAL # : 321949 TOTAL ENGINE TIME : #8 HKS. PERFORMANCE TEST RESULTS : PASS ALK FLOW MEASUREMENT METHOU : BELL-MUDIM	. MUDEL :	4. 175 B USA9 BB HKS. LTS : PASS	8 5. 55. 8£∟-M∪	r כ			e con		ç		Ä	SI LOCAT TEST C TEST C SCOT INSTRUM	1 LOCATION : IELEUTY TEST CELL NUMBER : TEST CELL OPERATOR SCOTT SUPERVISUR INSTRUMENT OPERATOR SMOKE UPERATOR		ີ່ ຕໍ່ເຄັນ ວ
TEST ENVIPONMENIAL CONDITIONS:  TEST TIME (MIL.TIME): INLET AIM TEMP. (DEU.F): AIMOSPHERIC PRESS.(IV.MU): RELATIVE MUMIUITY (E): INLET AIM HUMIUITY - (GM M20/GM DRY AIR):	VIPOSMENIAL CON TIME (MIL-TIME T AIR TEMP. (DEU SPHERIC PRESS.) TIVE HUMIUITY (GM HZ&AGM DRY	(11,445) : (11,445) : (14, 11, 11, 11, 11, 11, 11, 11, 11, 11,	STAR1 121d 62.53 : 28.67 57		FINISH 1385 63.8 63.8 63.8 63.8 63.8 63.8		A.	SAMPLE LINE: FLOW RATE: 23 L TEMPERATURE: 38 LENGTH: 153 FT.	: 23 LPM : 23 LPM KE: 388 DE5.F 152 FT.	)E5.•F		NOEE TARE	FUEL ANALYSIS: SAMPLE # 1 TYPE: JP-4 MI-8 CARBUN: WI-8 SULFUK: H/C RATIO-MASS:	1: 1 46.23 1: 1 46.23 1: 1 4.12 1: 1	2000
TEST MODE		I coar	FLOR ZAK	FLO#	F/A ACT	F/A CALC	J X	THC PPMC	COS	<b>7</b> 00	Propriet	2 J	52 03	ž	4/A
INTERMED. 1 INTERMED. 2 NORMAL	8 4 7 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	37.1 37.1 37.5 3.5 3.5 3.5	238 285 545 678	17728 22548 45586 54989 78368	8 6 6 8 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3662	1.831 1.842 1.242 1.383	154.48 154.48 39.47 31.41	1511.84 1513.48 155.89 571.16	2.26 2.21 1.94 1.97	13.43 15.84 15.92 17.53	1.56 5.98 7.39 19.54	12.68 13.48 9.93 18.13	37.55 37.55 5.34 5.28 5.18	
4	EMISSION	SION INDICES :	. !			G <sub>N</sub>	707	IHC		200	# NON	00	NO2	SOX	
IDLE INTERMED. 1 INTERMED. 2 NORMAL	22.67	57 97.18		1	2.12 2.12 2.65 2.84	1 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	1.59 1.59 1.59 1.59	2.16 2.16 1.18 1.18	29.3 5 27.7 8 34.3	665 847 1626 2846	1 1 2 2 1 1 1 2 2 2 1 1 2 2 2 2 2 2 2 2	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2 4 5 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	1.87	

\*\* AVERAGE CONCENTRATION AND MASE EMISSION DATA ARE AREA-METGHTED.

MEPUNT DATE 12/15/75 USAF CUNTRACT F296#1-75-C-##46	ENGINE 1. NUMBER 4	IESI LOCATION : TELEDYNE-NEU TEST CELL NUMBER : 2 TEST CELL OPERATOR : A SCOTT SUPERVISUR : #HS INSTRUMENT OPERATOR : PA SMOKE OPERATOR : DU	FUEL ANALYSIS: SAMPLE #: 1 TYPE #: 10-4 MT.& CARBUN: #6.23 WT.& NYURUEN : #6.86 MT.& SULFUR: #6.14 H/C RATIO-MASS: 6.13	NUX NO NU2 **** SMUKE -*** PPH PPH PPH SN N/A 9.23 8.49 8.75 45.32 8.823,1 16.45 6.96 9.89 7.91 8.823,3 35.41 21.26 14.15 11.28 8.823,3 NUX NO NO NO SUX 8.29 8.82 6.28 8.46 1.71 8.74 8.97 1.31
			LPM 38# DEG.F T.	CO CO2 Pow 8 275-11 7-26 525-18 7-86 524-38 3-28 70 CO2 74-6-6-6-7 34-2 2885 34-2 2885 35-2 3373
SET 1492-084-1275	TE: 3/18/75		SAMPLE LINE: FLOW RATE: 23 LPM TEMPERATURE: 389 DEG.F LENGTM: 1.9 FT.	14.0 PPHC 23.4 4 12.3 3
SE1 14	IES! DATE		3	EPR 1.836 1.336 1.336 1.136 1.648 1.648
				A
			FINISH 1838 649.55 28.35 25.35 27.35	AIR F/A #/HW ACT 18465 - 412 18465 - 412 56742 - 412 1812 - 412 1812 - 412 72 - 122 73 - 122 74 - 122 75 - 122
ING.		SELL-MUUTH	1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	FLOW # KLUW # KL
FECHNOLOGY MISSIONS 1	S. ITPE B	: JAY-[23 134] July HMS- JLTS : PASS METHOU : B	100111005 : 46) : (6.F) : (8.F) : (4.F) : (7.F) : (4.F) : (4.F	EB THRUS! FILE  S A B B B B B B B B B B B B B B B B B B
NMENTAL TEST	UMBER	A MUDEL : I M : 441 TIME : TEST RESU	T ENVIRONMENTAL CONDITION TEST TIME (MIL.TIME): INCET AIR TEMP. (D.G.F): AFHUSPHENIC PRESS. (IN-HU) AFLATIVE HUMIDITY (#): INLET AIR HUMIDITY — (GM HD#/GM DDY AIR):	#ATED 17 PUNER 38 38 144 188 184 184 0000000000000000000000
SCUIT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENTURY INDIVIDUAL EMGINE TEST REPORT	SCULL TEST WINNER	ENGINE TYPE & MUDEL : JAY-123 ENGINE SERIAL # : 4#1341 TOTAL ENGINE TIME : 4# MAS. PERFORMANCE TEST RESULTS : MASS AIR FLUM MEASUREMENT METADU : BELL-MUUTH	TEST ENVIRONMENTAL CONDITIONS TEST TIME (MIL-TIME): INLET AIR TEMP. (DEG.F): ATMOSPHENIC PMESS. (IN-MG) MELATIVE HUMIDITY (%): INLET AIR HUMIDITY (%): (5M HPB/GM DRY AIR):	TEST 40DF RATED THRUST FLOW FLOW F/A F/A EPK PUMER # #/HR ACI CALC   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1908   1008   1

0.4	r	3 8075			2	6.40	0.70		. A / B	4.423.	8. A23.	1.463					
12/15/7 75-C-##4	NUMBER	EUTNE NEU TUN : Ca SON : 413 TUN : PH TUN : PH		••	65.23		.: 1.95  S: 5.13	j	5	32.55	1.67			204		3 .	2.18 4.18
REPURT DATE 12/15/75 USAF CONTMACT F29681-75-C-8846	ENGINE 1. NUMBER	IEST LOCATION: TELEUYNE'NEU IEST CELL NUMBER: 2 TEST CELL OPERATUR: C* SCOTT SUPERVISOW: ***** INSTRUMENT OPERATUR: P*** SMUKE OPERATUR: DU	7	SAMPLE # :	CAMBON :	WI.& HYDROGEN	H/C RATIO-ATM.: C/H RATIO-MASS:			14.62	9.82	12.87		70N		6.32	1.64
CONTRAC	ធ	SF LOCAT TEST C TEST C TEST C SCOT INSTRUM	Š	SAMP	TYPE WT.B	***	0/1/0	2	N d	6.47	19.9	99./1		ON N		9.6	2.23
USAF		3						3	N I	11.18	16.49	78.67		Z Y Y		H . 33	3.93
					اما دی			600	7 #	2.20	2.82	2.68		202		636	3378
10	75				: 340 DEG.F			ć	5 6	66.1161	545.25	94.74		93		24.5	37.3
SET 1492-1344-1275	3/18/75		i c	FLOW KATE	TEMPERATURE : 38 LENGTH : 134 FT.			3	PPRC	234.69	24.33	12.49		THC		J. 52	20.30
SET 149	TEST DATE			X L				ê	K L	1.832	1.385	1.773		N02		1.46	1.56 1.55
								i	CALC	. 812	. 810	· #13		NO		99.9	2.65
				FINISH	172b 51.5	28.48	7 L 9 9 . 0	3	ACT	. 412	. #12	CIR.				1.52	3.68
ź.				ī			10	A I A	# Z Z Z Z	18778	8534B	71895		#	Ì		
14VEN10		5. 85 85LL-80		(A)	1554	10	12.0.4	FJEL	# / I K	82F	976	1990		ຸວ * 	i		
CHNOLUGY CS 10NS REPORT	6. TYPE A	## #RS.   F   F   F   F   F   F   F   F   F   F		CNOT LIC	. (1	: (94.41)	: (¥I			2.	515	456	INDICES	3		_	34.24
GINE EM		. 48150 ME : 48150 T RESUL		I AL CON	1L.TIME	PRESS. (	MIDITY GM DBY			38	t O	1 4 4	NOISSI	1HC		15.43	4.53
SCUIT ENVINONMENTAL TECHNULUCY INC. USAF TURBINE ENGINE EMISSIONS INVENTURY INDIVIDUAL ENGINE TEST REPURT	SCUTT TEST NUMBER	ENGINE TYPE & MUDEL : JAY-125 ENGINE SERIAL # : 421565 TUTAL ENGINE TIME : ## MKS. PEMFURMANCE TEST RESULTS : MAS. AIM FLOW MEASUMEMENT METHOU : BELL-MOUTH		IEST ENVIRONMENTAL CONDITIONS :	TEST TIME (MIL.TIME) :	AT40SPHENIC PRESS. (14.HG)	INLET AIH HUMIDITY - (GM H2A/GM DRY AIR)			IJLE	NORMAL	MILITARY	EXMAUST MASS EMISSION INDICES :			10LE	MILITAHY

\*\* AVEMAGE CONCENTRATION AND MASS EMISSION DATA ARE AREA-WEIGHTED.

MEPORT DATE 12/15/75 USAF CUNTRACT F296#1-75-C-##45	ENGINE 1. NUMBER 3	A 7	SHORE OFERAIOR .	FUEL ANALYSIS :	-	ET-S CARBON : 86-23 ET-S HYDROGEN : 14-86		H/C RATIO-AIM.: 1.96 C/H RATIO-MASS: 6.13	NOX NO NOS **** SMUKE -** PPM PPM SN 4/A		18.84 8.46 8.14 2.72 8.8233	22.81 12.23 2.00		N0 N02		70.7	4.4# 2.83 1.57 2.16	
					.6 €				205	•	1.00			;		76.30	3347	
r	75			••	: 23 LPM E : 308 UE	ng FT.			Ca		1868.14	\$11. AB		00	ŀ		32.3	
>E 1492-D84-1275	E: 3/19/75			SAMPLE LINE :	FLOW MATE : 23 LPM TEMPERATURE : 388 UEG.F	LENGTH : INR FT.			THC PPMC		1/8-17	7.00		IHC		D	#•45 #•31	
>E   14	TEST DATE :			SA					х 1		1.831	1.540		405		1.63	1.46	
									F/A		30 7	+16.		2		40.0	2.64	
					FINISH 1448	64.6	345	6588.b	F/A ACT	-	219	916		FUEL		/0.	* * * * * * * * * * * * * * * * * * *	
Y			<u> </u>					5	FLU*		5447 I	CAREO		A STERI	1			
Y INC.	r	\$5	DELL-MO		START 1412	67.8		#. ap61	TJEL TLOW		238	1001		1	i	83 645E		
CHNULUS ALCSIUNS F REPURI	7. TYPE H	JAY-125 512 BB MAS- 15 : PASS	ALTHUU :	CNOTTION		5.F) :	: (4)	A14) :	I SUSI		5.57	717	INUICES			•	98.67 63	
MENTAL (4 ENGINE ET GINE TES		400EL : 321'TIME :	UMEMENT	ENTAL CU	(MIL.TIM	TEMP. (DE	UMIOITY	T AIR HUMIUITY - (GM H207GM ORY AIR) :	TY DE COLUMN		20 d	1 6	EMISSION	3H1		18.34	70. E	
SCOTT ENVIRONMENTAL (ECHNOLOUT INC. USAF TURBINE ENGINE EMISSIONS INVENT	SCUTT TEST AUMSER	EVGINE TYPE A 400EL: JAY-125 EVGINE SEMIAL #: 321512 TOTAL ENGINE TIME: BW MKS- PEMFORMANCE TEST MESULIS: MASS	AIR FLOW MEASUMEMENT METHOO : BELL-MOOTH	TEST ENVIPONMENTAL CUNDITIONS :	TEST TIME (MIL.TIME)	INLET AIM TEMP (DEG.F) :	HELATIVE HUMIDITY (4)	INLET AIR HUMIULTY (SM H20/GM ORY	TEST MODE		10LE	MILITARY	EXMAUST MASS EMISSION INDICES :			10LE	MILITARY	

2/15/75 -C-4446	JMSER 7	7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 - 7 -	20 % (1 120 m 27 % (1 120 m 37	45.67 B.
MEPONT VATE 12/15/75	ENGINE 1. NUMBER	IESI LOCATION : TELEDYNE NEVER I STESI CELL NUMBEN : 2 TESI CELL OPERATON : 4 NO SCOTT SUPENVISON : 261 INSTRUMENI OPERATON : DA SHONE OPERATON : DA	SAMPLE #: 2 TYPE: JP-4 MT.% CAMBUN: WI.% MYDRUGEN: WI.% SULFUM: H/C MATIO-MASS:	200 200 200 200 200 200 200 200
CONTRAC	<u> </u>	ST LOCATI	SEE TAPEC	NO PPH 1:37 1:37 1:37 1:37 1:37 1:37 1:37 1:37
USAF		Į.		NOT 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
			الة 5 <del>.</del> م	202 2.4.4 3.4.4 3.17 3.8.58 3.8.58 3.8.58
	ž		: 23 LPH 4F: 348 DEG.F 78 FT.	CO 1389,64 5384,16 511.48 751 384,3
SET 1492-084-1275	F: 4/ 1/75		SAMPLE LINE: FLOW RATE: 23 LPH FLOM RATE: 348 . LENGTH: 78 FT.	14C PPHC 294.33 1 41.36 17.76 1.84 1.23
SE   14	TEST DATE :		5	EPK 11.873 11.375 11.375 12.62 14.02 14.16 14.16 14.65
				2 CALC 2 CALC 3 CALC 4 CALC 4 CALC 4 CALC 4 CALC 5 CALC 6 CALC 6 CALC 6 CALC 7 CALC
			FINITAL STATES OF SECTION STATES OF SECTION SE	F/A ACT
ř		<u>r</u>	12 19	# 5 6 3 1 1 K K K K K K K K K K K K K K K K K
Y LUC. I AVENTO	r	5. 55 51-40	STAKT 945 9410 8 28.64 545	1 1 2 2 1 X
CANULUG ILAS IUNS REPORT	8. TYPE H	JS9-125 HB HKS. TS : PASS	01110NS	112051 FF 65 521 432 69 184.57 69 184.57 65 65 65 65 65 65 65 65 65 65 65 65 65
MENTAL TE ENGINE EVI GINE TEST		MUDEL: #: 4#14 TIME: EST RESUL	VIRONMENTAL CUNDITION IN TIME (MIL.TIME): T AIN TEMP. (DEG.F) SPHENIC PRESS. (IN.M) TIVE HUMIOITY (*): T AIN HUMIOITY -	EAISSION IN 17-659
SCULT ENVIRONMENTAL TECHNOLUGY 14C. USAF TURBINE ENGINE EMISSIUNS 14VENTURT INDIVIDUAL ENGINE TEST REPORT	SCOTT TEST NUMBER	ENGINE TYPE & MOUEL : US9-120 ENGINE SERIAL # : 441444 TOTAL ENGINE TIME : ## HMS. PEÑFURMANCE TEST RESULTS : MASS AIM FLUM MEASUAEMENT METHOU : #1211-MOUTH	TEST ENVIRONMENTAL CUNDITIONS: TEST TIME (MIL.TIME): INLET AIN TEMP. (DEG.F): ATMOSPHERIC PRESS.(IN.HU): AELATIVE HUMÍUITY (*): INLET AIN HUMÍUITY - (GN HPZ/GM DRY AIR):	TEST MODE MATED INWUST F  LUE 3M 05  NOWMAL  MILITARY 188 521  MILITARY 188 521  MILITARY 188 521  MILITARY 188 521  MILITARY 188 531  10.65 60  10.67 60  10.67 65.93  MILITARY 8.63 31.73
				- 17

\*\* AVEHAGE CONCENTRATION AND MASS EMISSION DATA ARE MASS-WEIGHTED.

NEPURI DATE 12/15/75 USAF CONTRACI F296#1-75-C-8#45	ENGINE I. NUMBER 3	TEST LOCATION : IELEUVNE.NEU TEST CELL NUMBER : 2 TEST CELL OPERATOM : A SCOTT SUPERATOM : A SCOTT SUPERATOM : BU	• ••	FUEL ANALYSIS :	177: 178: 178: 178: 178: 178: 178: 178:	- z		C/H RATIO-MASS: 6.41	NOX NO NOS + SMUKE	34.26	3.85	34.38 4.43 8.823.
					0E6.F				C02	2.15	5.24	7.94
75	71.2				KE : 3/18				5 2 2	1389.32	64.1.43	456.10
SET 1492-084-1275	TEST BATE : 47 1775			SAMPLE LINE :	TEMPERATURE : 3.88 DEG.F				LIJ OH OH	153.47	29.47	14.3E
SET 14	TEST DAT			Š					۲ 2 1	I B B B	I • 353	I.bna
									FIA	9	. 19 1	7 3.
				2	151	8.52	S C	6588.P	FIA	· 1 9 ·	.413	.415
20			חוחח						FLO#	17637	52661	67169
SY INC.	τ	455 455	: שברר-א		1414	: 28.52	82	4.9954	F JEL F COM	238	668	Idea
EMICSIONS ST REPORT	9. TYPE 0	1492 1492 ## HRS• JLTS : PASS	METHUD	NOITION	16) :	(JN.MC)	E :	AIR)	I SUGHI	95	SAR	3,0
ENGINE E	Ju z E K	1 400EL   11	SUKEMENT	FNTAL CL	TENP COP	IC PRESS.	101101	GW 428/6M DRY AIR) :	AAIEO IHPUSI	38	70	100
SCUTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBING ENGINE EMISSIONS INVENTURY INDIVIDUAL SHOINE TEST REPURT	SCOTT TEST .JWSEH	ENGINE TYPE & MOUEL : JAY-125 ENGINE SERTAL # : 321442 FOTAL ENGINE TIME : ## HKS+ PERFURMANCE TEST RESULTS : MASS	AIR FLOW MESSUMEMENT METHOD : BELL-MOUTH	TEST ENVIRONMENTAL CONDITIONS :	TEST TIME (MIL.TIME) :	ATMOSPHERIC PRESS, (IN-HU)	RELATIVE HUMIDITY (*)	(T 70)	IEST MOUE	IDLE	NURSAL	MILITANT

\*\* AVENAGE CONCENTRATION AND MASS EMISSION DATA ARE MASS-MEIGHTED.

705 105

CU2 NUX NO CU2 NUX NO 7 673 8-42 3 2814 1.92

CO 27.7 34.3 33.4

1HC 1+75 1+75 1+75

THC CU CU2 NUX NU V02

7.62 IC#444 2928 I.81

1.44 52.91 3#56 2.91

4.75 31.53 3#86 3.41

IDLE NOMMAL MILITARY

EAMAUST MASS EMISSION INUICES :

REPORT DATE 12/15/75 USAF CONTRACT F29681-75-C-8846	ENGINE 1. NUMBER 9	TEST COCATION : TELEDYNE NEU TEST CELL NUMBER : 2 TEST CELL OPERATOR : K SCOTT SUPERVISOR : 261 INSTRUMENT OPERATOR : PH SMOKE OPERATOR : DU	FUEL ANALYSIS: SAMPLE # : 3 TYPE : JP-4 WT-% CARBON : 85.58 WT-% HVDROGEN : 14.32 WT-% SULFUR : #.84 H/C RATIO-ATM-: 2.81 C/H RATIO-MASS: 5.98	NOX NO NO2 * SMOKE+  18.85 7.19 2.85 31.16 8.8234  17.59 14.63 2.96 8.8234  29.63 26.77 2.86 1.67 8.8234  NOX NO NO2 SOX  8.32 8.23 8.89 8.19  1.65 1.37 8.28 8.56  3.58 3.24 8.35 8.98
SE1 1492-D84-127S	TEST OATE : 4/ 2/75		SAMPLE LINE: FLOW RATE: 23 LPM TEMPERATURE: 348 DEG.F LENGTH: 78 FT.	THC CO CO2 PPHC PDM % 644.39 1943.18 2.14 33.47 577.62 2.29 II.78 465.89 2.99 THC CO CO2 7.28 37.9 2846 1.89 32.9 2846 8.58 34.3 3457
		;; 55 85LL-400TH	: START FINISH 1285 1345 33.8 28.59 28.59 180 28.59 180 8.841	EL AIR F/A F/A F/A F/A F/A F/A M/M ACT CALC CALC CALC CALC CALC CALC CALC
SCUTT ENVIRONMENTAL TECHNULUGY INC. USAF TURBINE ENGINE EMISSIUNS INVENTURY INDIVIDUAL ENGINE TEST REPORT	SCUTT TEST NUMBER 14. TYPE B	ENGINE TYPE & MUDEL : J69-T25 ENGINE SERIAL # : 4.4365 TOTAL ENGINE TIME : 88 HMS. PERFORMANCE TEST RESULTS : PASS AIR FLOW MEASUHEMENT METHOU : BELL-MU	TEST ENVIRONMENTAL CUNDITIONS:  TEST TIME (MIL.TIME): INLET AIR TEMP.(DEG.F): AIMOSPHERIC PRESS.(IN.HG): RELATIVE HUMIDITY (%): INLET AIR HUMIDITY — (GM M79/GM DRY AIR):	TEST MODE RATED THRUST FL.  POWER # # #/  IDLE 36 BB  NUMMAL 34 BBB  EXHAUST MASS EMISSION INDICES:  THC CU  IDLE 38.64 38.61  HILITARY 6.44 38.61

\*\* AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE MASS-WEIGHTEO.

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46	٦	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			X	35	7 6 7	5.98		Kr	#/#	H . 423s	6.623	H-823.					
REPURI DATE 12/15/15/ ACT F29681-75-C-8846	ENGINE I. NUMBER IS	LEUYNE N EH : 2 ATOR : A ATOR : A	••	8	יי געיילע					* SMUKE	Z S	24.40	41.1			50X	B . 18	# TO TO	
PORT DATE	VGINE 1	T LOCATION: IELEUY TEST CELL NUMBER: TEST CELL OPENATOR SCUIT SUPERVISUM INSTRUMENT OPERATUR SMOKE OPERATUR	FUEL ANALYSIS	SAMPLE # :	TYPE : JP-4	HYUROGEN	WI. & SULFUR :	CZH RATIO-MASS		402	T d	6.27	4.83	3.72		N02	6.19	64.4	
HEPORT DATE 12/15/75 USAF CONTRACT F29681-75-C-8846	<u></u>	TEST LOCATION: TELEUTNE.NEU TEST CELL NUMBER: 2 TEST CELL OPERATOR: MAU SCUT SUPERVISUM: 261 INSTRUMENT OPERATOR: PA SMOKE OPERATOR: PA	FUEL	SAMP	1 Y P	* L B	# · L X	3		0 2	T da	4.74	11.13	<b>c8.62</b>		ON ON	7 · B	96°8	2
USAF		E E								NOX	M dd	16.91	15.96	75.62		X X X	8 . 34	1.41	
					E G • F					C02	×	61.2	2.41	3.15		CUZ	949	2845 365A	
	ر.			: 23 LPM	E : 382 DEG.F	•				သ	MOD	H68 73	658.49	479.98		60	35.0	35.5 22.5	0.00
SEI 1492-D#4-1275	: 4/ 2/75		SAMPLE LINE :		TEMPERATURE					THC	D D M C	76.3.34				IHC	3.18	1.1.1	200
SE1 149	TEST DATE		SAM			,				A X		1 1 1 1 1 1 1	1.4.07	1.173		708	9.34	40.0	000
										FIA	CALC		516	410.		NO	4.63	1.4.	00.3
				FINISH	1510	20.61	24	8-6425		FIA	ACT		1 -	<10.		FUEL	1.4.1	2.11	2 8 9
E		<u> </u>		FI	-	2		æ.	2	FLOW	#/HK	1010	54426	12874		18E	!		
Y INC.	Ť	.85 .85 .8711—800	••	31	1416	28.61	מני מ	3.8925	9	7.07	71/#	25.0	57.5	1128		*	612 219	848 3848	
CHNOLUG 415510N3	11. TIPE +	322 84 HKS• 115 : PASS	SNOTTION		. ()		: (+)	(XIA		THRUSI	æ	44	57.0	915	INDICES	- 1	156.01	23.86	
PENTAL TE		MUUEL : I : 321. IIME : EST RESUI	FNIAL CO	1	CHIL. TIM	CHRESS	UMIUITY	(GM HZB/GM DYY AIR)				1 3	9 7	9 - 1	H15510N	THC	35.57	1.44	
SCUTT ENVIRONMENTAL TECHNULUGY INC. USAF TURBINE ENGINE EMISSIONS INVENTURY INDIVIDUAL ENGINE TEST REPORT	SCULL FEST JUHARM	ENGINE TYPE 4 MUDEL: J69-T25 ENGINE SERIAL #: 321322 TOTAL ENGINE TIME: PERFURMANCE TEST RESULTS: MASS	 TEST FINE PROMISENTAL CONDITIONS :		TEST TIME (MIL.TIME) :	ATMOSPHEMIC PRESS (IN. 46)	KELATIVE HUMIUITY (*) :	INLEI AIR HUFIUIIT A (GM H28/6M D4Y A		TEST MOUE		111111111111111111111111111111111111111	NO CANAN	MILITANY	EXMAUST MASS E415510N INDICES		JOLE	SORMAL	BILLIAKT

\*\* AVEMAGE CONCENTRATION AND MASS EMISSION DATA APE MASS-WEIGHTED.

ENGINE J85-5

NEPONT UATE 12/15/75 USAF CONTRACT F29681-75-C-8846	ENGINE 2. NUMBER 1	TEST LOCATION: TELEUTNE, NEU TEST CELL ONERATOR: 2 TEST CELL OPERATOR: CAW SCOTT SUPERVISOR: MYS INSTROMEN! OPERATOR: PR SMOKE OPERATOR: FL	FUEL ANALYSIS: SAMPLE #: 1 TYPE : JP-4 MT-8 CARBUN : B6-23 WT-8 HVINOGEN : 14-86 WT-8 SULFUR : 4-18 H/C RATIO-MASS: 6-13	0 Z Q		NOX NO NOS SOX
			E G • F	205 *	1.96 1.98 3.21 11.44	CU2 1218 4496 8318 25169
	2		23 LPH 23 189 DEG.F 34 FT.	Saa	2342,51 495,43 546,42 1567,75	2000
SET 1492-084-1275	It : 3/1///5		SAMPLE LINE : FLOW RATE : 23 L TEMPERATURE : 38 LENGIM : 148 FT.		78.63	22.27 22.27 6.46 6.85 6.18
SE1 14	TEST DATE:		v,	וין 7 ג		4.58 2.41 2.41 2.24 8.79
					1 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	1.47 1.35 1.35 1.35
			14 14 14 14 14 14 14 14 14 14 14 14 14 1			100 NOT A STORY A STOR
NI CHY		I 00 F	2 3 3 5 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		בּבּבּבּ	2002 2002 2003 2003 2003 3104 EMISSION
ULUGY 14C	2. TYPE B	5-5 3# AKS. 3 PASS			1531 1478 2555 2598 3878 3438 401CES 8	48.50 48.50 33.40 27.80
INE EMICS		12 : 245 : 231114 : : 231114 : : 4650LTS	4 CUNUIT. - TIME) : - (DE6.F) - (DE6.F) - (DE7.F) - (DE7.F)		47 04 47 1551 188 2853 188 3878 18510N INDIC	44,44 48.58 4,39 48.58 4,77 33.40
SCUIT ENVIRONMENTAL TECHNULUGY INC. USAF TURBITE ENGINE EMICSIONS INVENTURY INDIVIDUAL ENGINE TEST REPORT	SCUIT TEST . IMAEM	ENGINE TIPE & MODEL : JASTS ENGINE SEPIAL # : 211114 TOTAL ENGINE TIME : PEMPORMANCE TEST RESULTS : PASS ALY FLOW WEASSWEMENT METHOU : GELL-MOUTH	TEST ENVIRONMENTAL CUNDITIONS: TEST TIME (MIL-TIME): INLET AIM TEMP-(DEG-F): AIMOSPHENTO PRESS.(IN-NO): MELATIVE HUMIDITY (*): INLET AIM HUMIDITY (*): INLET AIM HUMIDITY (*):	37.0	10LE	THC CU CUZ NUX NU NOZ NUZ NUX NU NOZ NUZ NUZ NUZ NUZ NUZ NUZ NUZ NUZ NUZ NU

- 18

MEPURT DATE 12/15/75 USAF CONTRACT F296#1-75-C-##40	ENGINE 2. NUMBER /	1EST LOCATION : TELEDYNE NEU TEST CELL NUMBER : 2 TEST CELL OPERATUR : 2 SCOTT SUPERVISOR : 251 INSTRUMENT OPERATUR : 251 SMOKE OPERATUR : 251		FUEL ANALYSIS: SAMPLE #: 3 IYPE: JP-4 WI-& CARBUN: #5.56 WI-& MTOROGEN: #4.32 WI-& SULFUR: #6.84 H/C RATIO-AIM:: 2.81	NO WOOD WOOD WOOD WOOD WOOD WOOD WOOD WO	9.51 3.38 6.21 8.88 8.8238 14.87 5.66 8.41 1.84 8.8238 26.13 18.79 7.34 2.65 8.8238	NOX NO NOE SOX  1 8.50 8.20 8.30 4.30  1 3.34 1.33 1.97 1.18  3 6.66 4.79 1.87 2.21
				الله و الله	¢ *	2.12 2.81 3.51	C02 1231 4511 8548
<i>ب</i> ر	75			: 23 LPM E : 348 D 78 FT.	500	1990, 39 478, 96 538, 14	0.0 1 1 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
5E1 1492-084-1275	TE: 4/ 3/75			SAMPLE LINE : FLOW RAIE : 23 LPM TEMPERATURE : 348 DEG.F LENGTH : 78 FT.	THC PPMC	562.48 96.19 26.39	11.94 7.837
sel 1	TEST DATE:			^	, n 3 3		102 103 103 103 103 103
					FIA	777	07 07 11 15 15 15 15 15 15 15 15 15 15 15 15
				1683 1683 34.8 26.54 72.8	F/A ACI		
, K		Ī		ta. 181	FLOIK NHK		18 1 18 1 2 1 1 1 1 1 2 1 2 1 1 1 1 1 1
I VENI	-	• & E	1	STAK1 988 34.8 28.54 72 8.6931	FJEL FLOW #7HR	448 1488 2778	* i
STORES SEPORT	12. TYPE H	945-5 94 FIRS. IS : PASS		2 1 1 1 CN 2 CN 2		3518 2778	510N INDICES: THC CU CL 27.13 168.22 21 5.32 46.22 34 8.85 34.13 34
SOLVE ENTE		400EL :		VIRONMENTAL CONDITION  TIME (MIL.TIME): T AIR TEMP. (DEG.F): SPHERIC PRESS.(IN.MU) TIVE HUMIDITY (+): T AIR HUMIDITY - (6M M29/GM OBY AIR):		25.5	415510N IN THC 27-13 5-32 8-85
SCUTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMICSTUNS INVENTI INDIVIDUAL ENGINE TEST REPORT	SCULT LEST NUMBER	ENGINE TYPE & MODEL: JAS-5 ENGINE SERIAL #: 23#242 TOTAL ENGINE TIME: ## MKS. PERFORMANCE TEST RESULTS: PASS ALK FLOW MENSINFMENT METHUD: ##:1-MOUTH	CONT. COL.	TEST ENVIRONMENTAL CONDITIONS: TEST TIME (MIL.TIME): INLET AIR TEMP. (DEG.F): ATMOSPHERIC PRESS.(IN.HU): RELATIVE HUMIDITY (+): INLET AIR HUMIDITY - (GM H2#/GM ORY AIR):	TEST MODE	IDLE NORMAL MILITARY	EXMAUST MASS EMISSION INDICES  THC CU THC CU 1DLE 27.13 108.2 NOMMAL 5.32 46.2 MILITARY #.85 38.1

\*\* AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE MASS-WEIGHTED.

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75	π ~	E. NEC NADU 1264 DC PX	1.05 1.05 1.05 1.05 1.05 1.05 1.05 1.05	JAC	9.8≥3€	4.823 A	W. W23	9.823								
E 12/15/	. NUMBER	Z		5N SMUKE	1.84		***	1.55		•	30x		7.5	93	1.65	4.11
REPORT DATE 12/15/75 ACT F296#1-75-C-##45	ENGINE Z. NUMBER		FUEL ANALYSIS: SAMPLE #: 3 TYPE: JP-4 WI-8 CARBON: WI-8 HYDRUGEN: WI-8 SULFUK: WI-8 SULFUK: C/H RAIIO-MASS:	SOCI	6.54	6.54	9.46	21.15			70N	1 3	2.0	1.77	2.15	5.54
REPORT DATE 12/15/75 USAF CONTRACT F296#1-75-C-##45	u)	TEST LOCATION TEST CELL TEST CELL SCOTT SU INSTRUMENT	FUNCTION OF STREET OF STRE	0 d d	3.18	5.54	3.43	5.85			9	1	4.27	19.67	1.29	1.45
USAF		Ħ		X E	9.72	8.78	12.50	26.99		* / AH	MUX	1 7	00	2.44	3.45	6.09
			اب ق ت	205 *	2.18	1.70	1.88	3.43			200	1076	6721	3511	47.31	8135
	0		23 LPM : 398 DEG.F d FT.	000	2275.73	1239.42	554,39	564.16			3		2 4	10.04	21.9	7
SEI 1492-084-1275	E: 41 3/75		SAMPLE LINE: FLOW RAIE: 23 L TEMPERATURE: 39 LENGIM: 74 FT.	THC PPMC	594.12			36.08 38.78			IHC		12.13	3.15	78.0	3.35
SET 14	TEST DATE		8	۳. ۶						•	105		C -	1.52	1.37	7
				FACCALC	.412		910.	.417			20		2 2 2	53.	20.6	54.5
			15181 1538 47.8 28.66 28.66 53	F/A ACT	-					FUF1			1 7 7	2.10	~ [· ] · ≥	2.54
10HY		1100		A P P P P P P P P P P P P P P P P P P P						B S T S E		27.7.				
I AVENT	•	 √5 M£LL-M	5 START 1434 47.8 28.54 53	FJEL FLOW #748	797	348	1168	1578		* -	ن	!				
HNULUG STONS REPURT	13. TYPE H	HIGH HAS-	11 11 10 NS 11 11 11 11 11 11 11 11 11 11 11 11 11	I SUSHI	90	214	1971	1636	NUICES		3	1 2 1 2				
NIAL TEC GINE EMI NE TEST	£к 13•	. 23885 . 23885 . KESULI	TAL COND 11L.TIME) MP.(DEG. HPESS.(1) LDITY (MIDITY -	AATEU TE	ţ	99	10	76	15510N 1		1±C		24.54	7.84	4.34	1.67
SCOTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENT INDIVIDUAL ENGINE TEST REFORT	SCOTT TEST WAREK	ENGINE TYPE & MUDEL : JMS-5 ENGINE SEMIAL # : 238859 TOTAL ENGINE TIME : ## MKS. PERFORMANCE TEST RESULTS : MAS. AIN FLOW MEASUMEMENT METHUD : MELL-MUDIM	TEST ENVIRONMENTAL CONDITIONS: TEST TIME (MIL.TIME): INLET AIR TEMP.(DEG.F): AIMOSPHERIC PRESS.(IN.HO): PELATIVE HUMIDITY (%): INLET AIR HOMIDITY (%): (GM HZ#ZGM DRY AIR):	TEST MODE R	13LE	INTERMED. 1	INTERMED. 2	MILITARY	EAMAUST MASS EMISSION INDICES				TATEOUFD	INTERMED.		MILITARY

SCUTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENTORY INDIVIDUAL ENGINE TEST REPORT	SINE EMICAL	SIONS IN	INC.				SE 14	SEF 1492-D84-1275	ın		USAF	REPORT DATE 12/15/75 USAF CONTRACT F296WI-75-C-WU46	KEPORI DATE 12/15/75 KACI F29681-75-C-8846	E 12/15/ -75-C-#4	7.5
SCULT TEST NUMBER		I4. IYPE H					TEST DATE :	6114 14 : 3	7.5			ũ	ENGINE Z. NUMBER	. NUMSE	1
ENGINE TYPE & MOUEL : JAS-5 ENGINE SERIAL # : 2327## TOTAL ENGINE TIME : ## MMS. PEMFORMANCE TEST RESULTS : PASS	32788 232788 12:	45-5 68 HKS.									ā	TEST LOCATION : TELEUTNE NEU TEST CELL NUMBER : 2 TEST CELL OPERATOR : 440	LOCATION : TELEUTI TEST CELL NUMBER : TEST CELL OPERATUR SCOTT SUPERVISUR	ER : Z ATOM : Z ISOM : Z	NEU MAU Zaf
AIR FLUW MEASUMEMENT METHUD : BELL-MUUTH	EMENT MET	HUU : 85	LL-MUU!	r								ENS ENS	INSTRUMENT OFFRATOR SMOKE OPERATOR	ATOR	13
TEST ENVIRONMENTAL CONDITIONS :	AL CONUI	TIONS :					SAR	APLE LINE :				FUEL	FUEL ANALYSIS	••	
TEST TIME (MIL.TIME) :	L. TIME	•	START	2 7	FINISH			FLOW HATE: 23 LPM TEMPERATURE: 24 AFG.F	: 23 LPM	سا ئ		SAMPI	SAMPLE # :		
INLET AIR TEMP. (DEG.F)	17 (DEG F		9.49	۰	9.10			LENGTH :	78 FT.			# L	WT. & CARBUN		35.58
AIMOSPIERIC PRESS.(IN. HG) RELATIVE HUMIOITY (表) :	PKESS.(IV	••	31	8	28.74 31							3 4	WI. & MYDRUGEN WI. & SULFUR :		7 . 3 C
INLET AIR HUMIUITY	- YILLI											H/C	H/C RATIO-AIM.		Z-#1
)/8CH W5)	(GM H78/GM 024 AIH) :		9.306.9	9	9.44.4							2	CZH RATIO-MASS:		5.98
	•			2											
TEST MODE HA	RATED THR	THRUSI FL	F.CON.	FLOW	F / A	F/A CALC	n X	THO	5 2	202	XON	02	202	SN SN	A/A
		-									1				
1 July NORMAL	4.5	1475	464					37,35	2137.34	2.23	16.78	3.16	5.93	5. C.	6.623.4 6.423.4
<u>*</u>			2548			. 917			4/4.11	3.47	29.62	21.55	9.80	2.83	B.823
EXMAUST MASS EMISSION INDICES :	ISSION IN	: <3010													
	JHL	/ #	* / I#	/ IBara FUEL	Ξ×	2	* 102	JHI	0.5	202	X X X	22	×0.2	203	
					ľ		1 4 1					1			
10LE	23.70	166.99	SABA			14.4	8.7.9	B4.81	7.07	2621	90.9	9 · I ·	14.8	4.37	
NORMAL	00.	39.72	3868		<b>6.</b> 55		1 · 30	Z . 7	75.4	4356	70.0	2.50	25°I	1 · I	
TILITARY	10.44	40.12	2000			14.5		===	42.0	6001	1001	97.0	1.4	2	

\*\* AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE MASS-WEIGHTED.

REPORT DATE 12/15/75 USAF CONTRACT F296#1-75-C-8846	ENGINE 2. NUMBER 5	TEST LOCATION: TELEDYNE, NEU TEST CELL NUMBER: 2 TEST CELL OPERATOR: AAD SCOTT SUPERVISON: 26T INSTRUMENT OPERATOR: PR SMOKE OPERATOR: DU	FUEL ANALYSIS : SAMPLE # : 3 TYPE : JP=6 MT-8 CARBON : BS.58 MT-8 HYDROGEN : 14-32 MT-8 SULFUR : #-64 H/C RATIO-MASS: 5-98	NOX NO NO2 0 SMOKE PPM PPM SN W/A 9-22 1-47 7-74 8-88 8-8234 16-45 5-48 18-98 1-14 8-8234 27-92 16-52 11-41 3-94 8-8231	NOX NO NOZ SOX 8.56 8.89 8.47 8.36 3.58 1.17 2.34 1.17 6.76 4.88 2.76 2.88
			E 6 • • •	C02 % 2.14 2.21 3.46	C02 1239 4497 8#22
	2.		: 23 LPM E : 388 DEG.F 78 FT.	CO PPM 2238.47 488.84 527.82	00 82.3 52.2
SET 1492-084-1275	JE: 4/ 7/75		SAMPLE LINE S FLOW RATE S TEMPERATURE LENGTH : 7	THC PPMC 743.53 78.25 36.66	174C 15-64 18-81 18-81
SET 1	TEST DATE		v	#   #	1 20 N N N N N N N N N N N N N N N N N N
				CALC CALC 	1 50 65 57 1 70 75 1 7
			FINISH 1528 1528 264.8 28.54 20.54	FIA	FUEL 11.24
O.R.		170		FLOW #/HR	18 ans 18
INC.	n	HKS. PASS	5TART 1420 54.94 : 28.54 : 28.54	FUEL FLOW #/HR 459 1478 2688	* 1282
ECHNOLUC MISSION	15. TYPE H	JRS-5 687 ## HP ILTS : P1	MOITION: ME) : (G.F) : (IN.HG) : (%) : AIR) :	THRUST # #2 15#6 257#	SION INDICES : THC CU 34.88 142.97 3.55 42.34 1.19 29.87
MENTAL TES		SERIAL #: 231687 MGINE TIME: ## MACE TEST RESULTS:	VIRONMENTAL CONDITION  TIME (MIL.TIME): T AIR TEMP. (DEG.F): SPHERIC PRESS. (IN. #6): TIVE HUMIDITY (%): T AIR HUMIDITY -	PRATED 1956 1950 1956 1956 1956 1956 1956 1956 1956 1956	## 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
SCUTT ENVIRONMENTAL TECHNOLUGY INC. USAF TURBINE ENGINE EMISSIONS INVENTI	SCUTT TEST NUMBER	ENGINE TYPE & MOUEL: JR5-5 ENGINE SERIAL #: 231687 TOTAL ENGINE TIME: ## HMS. PERFORMANCE TEST RESULTS: PASS AIR FLOW MEASUMEMENT METHOU: BELL-MOUTH	TEST ENVIRONMENTAL CONDITIONS: TEST TIME (MIL.TIME): INLET AIR TEMP.(DEG.F): ATWOSPHERIC PRESS.(IN.MO): MELATIVE HUMIDITY (%): INLET AIR HUMIDITY (%): INLET AIR HUMIDITY (%):	TEST HODE IDLE NORMAL HILITAMY	EXMAUST MASS EMÍSSION INDICES  THC CU THC CU TOLE 34.84 142.  NORMAL 3.55 42. MILITAMY 1.19 29.

REPURT DATE 12/15/75 USAF CONTRACT F29681-75-C-8845	ENGINE 2. NUMBER 6	IESI LOCATION : TELEOYNE, MEUTEST CELL NUMBER : 2 TEST CELL OPERATOR : MAUSCUT SUPERVISOR : LGT INSTRUMENT OPERATOR : PR SMOKE OPERATOR : DU	FUEL ANALYSIS: SAMPLE #: 3 TYPE : JP-4 TYPE : JP-4 MT-8 CARBON : 14-32 WT-8 HVC RATIO-ATM.: 16-84 H/C RATIO-ATM.: 2-81 C/H RATIO-ATM.: 5-96	CO2 NOX NO NO2 SMUKE
SET 1492-D84-1275	TEST DATE: 4/ 8/75		SAMPLE LINE: FLOW RATE: 23 LPM TEMPERATURE: 388 DEG.F LENGTH: 78 FT.	EPK THC CO 663.86 2489.14 354.78 1485.58 79.56.88 52.51 468.38 52.51 468.38 52.51 468.38 52.51 468.38 76.88 1.86 13.86 82.8 1.96 13.86 82.8 1.96 13.86 82.8 1.98 11.18 76.8 1.98 11.18 76.8 1.17 3.96 68.8
	-		I am -	CT CALC CT CAL
NIURY		- <b>M</b> 0U1H	START FINISH 1345 1445 64.8 64.8 28.53 28.53 65 65	AIR #/HR 
CHNOLUUY INC ISSIUNS INVE REPORT	16. TYPE B	J85-5 36 8# MKS. TS: PASS ETHUD: BELL		## #   10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
NAMENTAL TEC		A MODEL :	TENVIRONMENTAL CUNDITIUN TEST TIME (MIL.FIME): INLET AIR TEMP.(DEG.F): ATMOSPHERIC PRESS.(IN.HO) RELATIVE HUMIDITY (%): INLET AIR HUMIDITY (%):	### ### ##############################
SCOTT ENVIRONMENTAL TECHNOLOUY INC. USAF TURBINE ENGINE EMISSIUNS INVENTURY INDIVIOUAL ENGINE TEST REPURT	SCOTT TEST NUMBER	ENGINE TYPE & MUDEL : J85-5 ENGINE SERIAL # : 232436 TOTAL ENGINE TIME : ## HKS. PENFORMANCE TEST RESULTS : PASS AIM FLUM MEASUMEMENT METHUD : BELL-MUUTH	TEST ENVIRONMENTAL CUNDITIONS TEST TIME (MIL.TIME) : INLET AIR TEMP.(DEG.F) : ATMOSPHENTC PRESS.(IN.HG) : RELATIVE HUMIDITY (%) : INLET AIR HUMIDITY (%) : (GM H20/GM DRY AIR) :	TEST MODE

\*\* AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE MASS-WEIGHTED.

REPORT DATE 12/15/75 USAF CONTRACT F29681-75-C-8846	ENGINE 2. NUMBER ?	TEST LOCATION : TELEOYNE NEU TEST CELL NUMBER : 2 TEST CELL OPERATOR : K SCOTT SUPERVISON : ZGT INSTRUMENT OPERATOR : PH		FUEL ANALYSIS : SAMPLE # : 3 TYPE : JP-4 MT-8 CARBON : B5.58 WT-8 HYDROGEN : 14-32 WT-8 SULFUR : #-84 H/C RATIO-MASS: 5.98	NOX NO NOZ SMUKE	8.12 8.86 9.88 8.88 18.90 2.13		NOV NOV SON	0-12 6-44	4.74
				ي. ق	205	2.39		C02	1254	7688
	2			23 LPH 1 388 DEG.F 8 FT.	020	2442.49 481.93 518.88		00	4.18	73.2
SET 1492-084-1275	E: 4/ 9/75			SAMPLE LINE: FLOW RATE: TEMPERATURE LENGTH: 7		254.69 2 29.71 19.45		IHC	65.81	1.61
SET 14	TEST DATE			<b>«</b>	EPR			N02	66.9	2
					F/A	1813		02	4.27	1.98
				FINISH 1745 71.8 28.46 34	F/A ACT			FUEL	1.26	2.92
Æ			Ĭ.		FLOW #/HR			# / 18aa# FUEL CU2 NOX		88 A
INC.		٠٠	BELL-MO	START 1645 11.8 29.46 34	FJEL FLOW #/HR	1378	••		100	7 17
HNULUGY SELONS REPORT	17. TYPE B	185-5 14 18 HKS. S : PASS	1H00 :	11 11 0NS 15 15 15 15 15 15 15 15 15 15 15 15 15 1		1388	NOICES			29.38
MENTAL TEC ENGINE EMI GINE TEST		. # 83124 . # 83124 . TIME 8	UNENENT ME	FENTINGHMENTAL CONDITION: FEST TIME (MIL.TIME): INLET AIR TEMP.(0EG.F): ATMOSPHERIC PHESS.(IN.HG) RELATIVE HUMIDITY (%): INLET AIR HUMIDITY — (GM HZ@/GM DRY AIR):		95	EMISSION !	THC	23,53	9.65
SCOTT ENVIRONMENTAL TECHNULUGY INC. USAF TURBINE ENGINE EMISSIUNS INVENTURY INDIVIDUAL ENGINE TEST REPURT	SCUTT TEST NUMBER	ENGINE TYPE & MODEL: J85-5 ENGINE SERIAL #: 231244 TOTAL ENGINE TIME: ## MKS- PERFORMANCE TEST RESULTS: FASS	AIR FLOW MEASUREMENT METHOD : BELL-MOUTH	TEST ENVIRONMENTAL CONDITIONS: TEST TIME (MIL.TIME): INLET AIR TEMP.(OEG.F): ATMOSPHERIC PHESS.(IN.HG): RELATIVE HUMIDITY (%): INLET AIR HUMIDITY (%): (GM HZ@/GM ORY AIR):	TEST MODE	IOLE NORMAL MILITARY	EXHAUST MASS EMISSION INDICES		10LE	MILITARY

\*\* AVERAGE CONCENTRATION AND MASE EMISSION DATA ARE MASS-WEIGHTED.

REPORT DATE 12/15/75 USAF CUNTRACT F29681-75-C-8846	ENGINE 1. NUMBER 11	TEST LOCATION : TELEDYNE, NEO TEST CELL NUMBER : 2 TEST CELL OPERATOR : MAU SCOTT SUPERVISOR : 26T INSTRUMENT OPERATOR : PA	SMOKE OPERATOR : 00	FUEL ANALYSIS: SAMPLE # : 3 TYPE : JP-4 MT-8 CARBUN: 85.58 WT-8 HVORUGEN: I4-32 WT-8 SULFUR: B-84 H/C RAIIO-ATM-: 2-81	
SET 1492-1384-1275	TEST DATE : 4/19/75			SAMPLE LINE : FLOW RATE : 23 LPM TEMPERATURE : 388 DEG.F LENGTH : 78 FT.	
				FINITY 16 16 16 16 16 16 16 16 16 16 16 16 16	
INC.		• «	SELL-MUUT	STANT ISBU 61.8 28.68 26.68	
SCOTT ENVIRONMENTAL TECHNOLUGY INC. USAF TURBINE ENGINE EMISSIONS INVENTURY INDIVIDUAL ENGINE TEST REPORT	SCOTT TEST NUMBER 18. TYPE B	ENGINE TYPE & MUDEL : J69-125 ENGINE SERIAL #: 321612 TOTAL ENGINE TIME : ## MKS. PERFORMANCE TEST RESULTS : PASS	AIR FLOW MEASUNEMENT METHOD : BELL-MUUTH	TEST ENVIRONMENTAL CUNDITIONS:  TEST TIME (MIL.TIME): INLET AIR TEMP. (DEG.F): ATMOSPHERIC PRESS. (IN.HG): RELATIVE HUMIDITY (%): INLET AIR HUMIDITY (%): (GM HZWAGM ORY AIR):	

(t '	84 8.8238 84 8.8238 84 8.8231		
SNS	9 9 9	SOX	### # .53
PPP	18.53 18.68 12.58	N02	8.32 8.94 1.45
NO M	1.25	0	6.91 2.78
NON	11.78	NOX H	1.85
205 #	2.25	203	646 2817 3396
S O	396.84 569.58 467.33	00	25.5 32.5 32.8
	144.48	<u>1</u>	1.51
FPR	1.845 1.484 1.774	NO2	1.43
F/A	. 612	02	9.17 1.38 2.53
F/A ACT	612	ď	1-64 2-88 3-85
FLOW */HR	17948 S4955 78946	20 20 20 20 20 20 20 20 20 20 20 20 20 2	1895
1.0E 1.0E 1.0E	228 668 1188	. !	2435 26 3#56 34 3#87
	64 531 953	INDICES	6.86 115.81 29.8 9.65 49.25 388 8.51 29.84 386
KATED TE	38	MISSION THC	1 c a a
TEST MODE	IDLE NORMAL MILITARY	EXMAUST MASS EMISSION INDICES  *	IDLE NORMAL MILITARY
	_ L		

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<sup>\*\*</sup> AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE MASS-WEIGHTED.

4 9 6 9	ю	NEC PR	00		5.58	5.98	Ke	0.6239 0.6231			
E 12/15/ -75-C-##	2. NUMBER	ER : 2 ATOR : 2 ATOR : 2 ATOR : 2	••		<b>.</b>		SN WYE	3.58		\$00 1.13	71.7
REPORT DATE 12/15/75 RACT F29681-75-C-8846	ENGINE 2	TEST CEL NUMBER : TEST CEL NUMBER : TEST CELL OPERATOR SCOTT SUPERVISOR INSTRUMENT OPERATOR	SMUKE OPERATOR	FUEL ANALYSIS	SAMPLE # : . TYPE : UP-4 WT-8 CARBON : WT-8 HYDROGEN	H/C RATIO-HASS:		8.15 18.57 11.43		202 202 203 203 203	11.7
REPORT DATE 12/15/75 USAF CONTRACT F29681-75-C-8846	Ē	TEST LOCATION: TELEDYNE, NEU TEST CELL NUMBER: 2 TEST CELL OPERATOR: K SCOTT SUPERVISOR: LGT INSTRUMENT OPERATOR: PR	T C	FUEL	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	273	2 d 0 d 1	1.23 4.28 17.82		8 9 5 2 • 3	4.14
USAF		1E					X M	9.38 14.84 28.45		NOX NOX 3.32	60.0
					٠ <u>٠</u>		205	2.82 3.63		C02 C02 1258 4315	7848
	10				: 23 LPH RE : 388 OE 78 FT.		Sa	2862.91 428.89 S17.89		77.8	76.3
SET 1492-0#4-1275	: 4/11/75			SAMPLE LINE :	FLOW RAIE: 23 LPM TEMPERATURE: 389 OEG.F LENGTH: 78 FT.			646-81 21 67-63 27-82		13.97 5.23	42.2
SET 149	TEST DATE :			SAN	<b>.</b> -3		EPX			1002	1.42
							F/A	* * * * * * * * * * * * * * * * * * *		NO N	16.1
					1138 1138 41.8 29.18	9. F # 3. B	FIA			NOX NOX 1-29 2-35	553
¥		h ;	101				FLOW #/HR			*	
INC.	.4		ロニニーサ		95# 41•#	8.8A38	FJEL FLOW #/HR	458 1418 2728			
CHNULUG)	24. TYPE A	185-5 18 88 HKS-	THEO	UTTIONS	. F. : [N-H6] :			1458 2718	NOICES	'-	68.87
ENTAL TEN NGINE EMI INE TEST		MUDEL: #: 232# 1ME: ST RESUL	KEMENT M	NTAL CON	MIL.TIME EMP. (DEG PRESS. (	T AIR HUMIDITY - (GM H2#/GM DRY AIR) :		923	41SSION	1HC 31.85	\$ C C
SCUTT ENVIRONMENTAL TECHNULUSY INC. USAF TURBINE ENGINE EMISSIUNS INVENTURY INDIVIDUAL ENGINE TEST REFORT	SCUTT TEST NUMBER	ENGINE TYPE & MUDEL : J85-5 ENGINE SERIAL #: 232#78 TOTAL ENGINE TIME : ## MMS. PERFURMANCE TEST RESULTS : PASS	AIR FLOW MEASUREMENT METHOD : BELL-MOUTH	TEST ENVIRONMENTAL CONDITIONS :	IEST TIME (MIL.TIME) : INLET AIR TEMP. (DEG.F) : ATMOSPHERIC PRESS (IN-HG)	INLET AIR HUMIDITY (E) (GM H28/GM DRY AIR)		10LE NORMAL M1L1TARY	EAMAUST MASS EMISSION INDICES :	1DLE NOMMAL	MILITARY

\*\* AVERAGE CONCENTRATION AND MASE EMISSION DATA ARE MASS-WEIGHTED.

HEPORT DATE 12/15/75 USAF CONTRACT F29681-75-C-##46	ME NE	ENGINE 2. NUMBER TEST CELL NUMBER: 2 TEST CELL NUMBER: 2 TEST CELL NUMBER: 2 SCOTT SUPERVISUR: 261 INSTRUMENT OPERATUR: PASSHOPEL ANALYSIS: 3 FUEL ANALYSIS: 3 TYPE: JP-4 MT.& CARBON: 14-32 MT.& SULFUR: 14-32 MT.& SULFUR: 2-81 C/H RATIO-MASS: 3-998	ENGINE 2* NUMBER  IESI LOCATION : TELEUYNE*NEU  TEST CELL NUMBER : 2  TEST CELL NUMBER : 2  TEST CELL NUMBER : 2  SCOTT SUPERATUR : Delay  SMOKE OPERATUR : Delay  SAMPLE # : 3  TYPE : JP-4  WT.& CARBUN : B-8-58  WT.& HYCKOGEN : 14-35  WT.& SULFUR : B-8-58  WT.& SULFUR : B-8-58  WT.& SULFUR : B-8-58  WT.& RATIO-MASS: 3-98  ZOM NO NOS * SMOKE  PPH PPH PPH PPH PPH PPH PPH PPH PPH PP
	SAMPLE LINE: FLOW RATE: 23 LPM TEMPEMATURE: 348 DEG.F LENGTH: 78 FT.	1 702	NJ NO2 IHC CO CO2 NUX NJ NO2 IHC CO CO2 NUX NJ4 1.83 13.83 81.6 1247 8.53 1.43 8.69 4.88 61.6 4436 3.87 1.49 8.96 2.51 71.7 8158 6.45 1.34 6.62 8.71 198.1 25774 16.33
SCOTT TEST NUMBER 21. TYPE H ENGINE TYPE & MUDEL: JBS-5 ENGINE SERAL #: 272818 TOTAL ENGINE TIME: ## MKS. PERFORMANCE TEST RESULTS: PASS	TEST ENVIRONMENTAL CONDITIONS: TEST TIME (MIL.TIME): 845 958 INLET AIR TEMP.(DEG.F): 47.8 47.8 ATMOSPHERIC PRESS.(IN-MU): 28.68 199 RELATIVE HUMIDITY (%): 188 199 INLET AIR HUMIDITY (%): 188	TEST MODE HATED THRUST FLOW FLOW F/A BY HR W/HR W/HR ACT CAPE OF THE BY HR W/HR W/HR ACT CAPE OF THE BY HR W/HR W/HR W/HR W/HR W/HR W/HR W/HR W	EXHAUST MASS EMISSION INDICES:  THC CU CU2 NUX NU  THC CU CU2 NUX

\*\* AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE MASS-WEIGHTED.

REPORT DATE 12/15/75 USAF CONTRACT F29681-75-C-8846	ENGINE 2. NUMBER 3	TEST LOCATION: TELEUTNE.MEU TEST CELL NUMBER: 2 TEST CELL OPERATOR: K SCOTT SUPERVISOR: 261 INSTRUMENT OPERATOR: PH SMOKE OPERATOR: DU	FUEL ANALYSIS: SAMPLE #: 3 TYPE: UP-4 MI.S. CARBON: 85.58 MI.S. SULFUR: #.04. HVC. RATIO-AATM: 2.01 C/H RATIO-AASS: 5.98	NOX NO NO2 * SHUKE PPM PPM SN #/A B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
SET 1492-084-1275	TEST DATE : 4/14/75		SAMPLE LINE: FLOW MATE: 23 LPM TEMPERATURE: 388 DEG.F LENGTH: 78 FT.	A EPK THC CO CO2 C PPMC PPM % 575.33 2373.88 2.29 63.83 473.52 2.28 8 26.22 494.51 3.58
SCOTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENTURY INDIVIOUAL ENGINE TEST REPORT	SCUTT TEST WHICK 22. TIPE C	ENGINE TYPE & MOUEL: JBS-5 ENGINE SERIAL #: 272818 TOTAL ENGINE TIME: ## HKS. PERFORMANCE TEST RESULTS: PASS AIR FLOW WEASUMEMENT METHOU: BELL-MOUTH	TEST ENVIRONMENTAL CONDITIONS: STARF FINISH TEST TIME (MIL.TIME): 845 958 INLET AIM TEMP.(DEG.F): 47.0 47.0 ATMOSPHERIC PRESS.(IN.NG): 28.60 28.68 RELATIVE MUMIDITY (%): 100 100 100 INLET AIM MUMIDITY (%): 0.0071 0.0071	FUEL AIR FLOW FLOW FLOW FLOW FLOW FLOW FLOW FLOW

\*\* AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE MASS-MELIGHTED.

50x 6.36 1.16 2.11

202

NO 8-86 2-22 3-97

\* / NOX IN NOX I

C02 1245 4438 8159

60 68-1 71-8

13.38 14.78

NO H 113 1.58

7HC CU CU2 NOX 29.74 182.55 2767 1.16 3.24 41.97 3861 2.42 8.99 8.83 27.19 3891 2.42

IDLE NOMMAL MILITAHY

EXMAUST MASS EMISSION INDICES :

SCOTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMICSIUMS INVENTURY INDIVIOUAL ENGINE TEST REPURT	MENTAL TEC ENGINE EMI GINE TEST	CHINDE CONT I CS I UNS REPURT	I VENTO	ř			26.	SET 1442-084-1275	75		USAF	CONTRAC	MEPORI WATE 12/13/75 USAF CONTRACT F296#1-75-C-##45	-75-C-	72
SCOTT TEST NUMBER		23. TYPL H	•				TEST DATE :	ATE : 4/15/75	775			<b>W</b>	ENGINE 2. NUMBER 18	. NUMBE	**
ENGINE TYPE & MOUEL : J85-5H ENGINE SERIAL # : 232437 TOTAL ENGINE TIME : ## MKS• PERFURMANCE TEST RESULTS : PASS	400EL : # : 23243 TIME : EST RESUL1	185-24 37 ## HRS- [S : PASS	÷						·.		2	TEST CELL TEST CELL TEST CELL SCOTT SU	TEST CELL NUMBER : TEST CELL NUMBER : TEST CELL OPERATUR SCOTT SUPERVISOR INSTRUMENT OPERATUR	2	3 431 3 421
AIM FLUW MEASUMEMENT METHOD : BELL-MUUTH	UNEMENT ME	: 00413	מַבַּרר-אַה	1 2								S	SMOKE OPERATUR	ATOR	06
TEST ENVIRONMENTAL CONDITIONS :	ENTAL CON	LITIONS	: SIANI		FINISH			SAMPLE LINE :				FUEL	FUEL ANALYSIS	•• m	
TEST TIME (MIL.TIME) : INLET AIR TEMP. (DEG.F)	(MIL.TIME) TEMP. (DEG.		34°C		1493			TEMPERATURE LENGIM : 78	4E : 148 DEG.F	E 6 • F		TYPE ET.	TYPE : JP-4		82.58
ATMOSPHERIC PRESS.(IN.HU) RELATIVE HUMIUITY (#) : INLET AIR HUMIUITY -	C PRESS.(I		: 28.74		65								HITE HYDROGEN : HITE SULFUR : H/C RATIO-AIM.	-	14.32 8.8. 2.81
2H H9)	(SM MZB/GM ORY AIR) :		8.0a74		4.4B82							2	C/M RATIO=MASS:		2.43
TEST MODE	RATED TO	THRUST	FJEL FLOW #/HK	FLOW */HK	F/A ACT	FIA	A T	THC	0.30	205 *	24 24 XI	22	N M	SNOKE SNOKE	JAE
15LE	4.6	98	464		-	. 313		548.31	2227.36	2.20	74.6	3.32	6.14		1.4232
NURMAL	26	1561	1555			. 116		57.34	492.26	2.33	14.81	6.32	8.4.6		0.023
MILITARY MAX AS	2 2 7 7	2613	855B			. 404		19.31	1693.92	12.24	14.65	48.51	22.14	5	63
EXMAUST MASS EMISSION INDICES :	EMISSION	INUICES	••												
	THC	7 #	3	CUZ NUX	FUEL	S S	402	- HC	92	200	NUX	2	NOA	SUA	
			i					•							
IDLE	24.52.	-		2795	1.21	64.9	2 .	_		1286	5.50	30.0	0 7 2	30.0	
MILITARY	2.13	27.53			2. S.	1.62	1.1	1.59		8159	6.73	4.28	2.45	\$ · 11	
MAX AB	8-15			3885	1.87	1.28	M.58		1 223.9	51452	15.34	18.53	18.4	10.9	

. AVERAGE CONCENTRATION AND MASE EMISSION DATA ARE AREA-WEIGHTED.

REPORT DATE 12/15/75 USAF CONTRACT F29681-75-C-8846	ENGINE 2. NUMBER 18	TEST LOCATION: TELEDYNE, NEO TEST CELL NUMBER: 2 TEST CELL OPERATOR: MAD SCOTT SUPERVISOR: ZGT INSTRUMENT OPERATOR: PK SHOKE OPERATOR: OU	FUEL ANALYSIS: SAMPLE # : 3 TYPE : JP-4 WIT-\$ CARBON : 85.58 WIT-\$ SULFUN : 14-32 WIT-\$ SULFUN : 8-84 H/C RATIO-AIM: 2-81 C/H RATIO-MASS: 5-98	NOX NO NO2 * SMOKE PPH PPH SN M/A 27.53 17.79 9.75 8.88 8.8264
			P. OEG. F.	CO2
-1275	115/75		SAMPLE LINE : FLOW RAIE : 23 LPM TEMPERATURE : 388 OEG.F LENGIM : 70 FT.	CO PPW 12 SB2.24
SET 1492-084-1275	TEST OATE : 4/15/75		SAMPLE LINE FLOW RATE TEMPERATUR LENGIH :	н тис РРИС 18.72
<i>S</i> .	TEST			F/A EPR CALC 
			FINISH 1693 E 28.88 65 65	F/A ACT
FORA		T TOOK	F 0 3 4 4	FLOW */HK
JUSY INC.	ر د د	35-5H ## HKS. 5 : PASS THUD : HELL-	0) (0	FJEL FLOW #/HR
TECHNOL	24. TYPE C	3.285-5 232437 88 55ULTS :	CUNDITIC IME): [DEG.F): 55.(IN-HC) IY (%): ITY -	POWER #
PONMENTAL	HJMGEH	14, * ; 74 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TENTRONMENTAL CUNDITION: TEST TIME (MIL.TIME): INLET AIR TEMP.(DEG.F): ATMOSPHERIC PRESS.(IN.HG) MELATIVE MUMIOLITY (%): INLET AIR HOWIDITY (%): INLET AIR HOWIDITY (%):	
SCUIT ENVIRONMENTAL TECHNOLUGY INC. USAF TURBINE ENGINE EHISSIONS INVENT INDIVIDUAL ENGINE TEST REFURT	SCUIT TEST AUMBER	ENGINE TYPE & MOUEL: J85-5H ENGINE SERIAL #: 272437 TOTAL ENGINE TIME: ## HMS. PERFORMANCE TES! RESULTS: PASS	TEST ENVIRONMENTAL CUNDITIONS:  TEST TIME (MIL.TIME): INLET AIR TEMP.(DEG.F): ATMOSPHERIC PRESS.(IN.HG): MELATIVE HUMHOLITY (*): INLET AIR HUMIDITY (*): (GM. H20/GM. DRY AIR):	TEST MOUE

\*\* AVENAGE CONCENTRATION AND MASS EMISSION DATA AME AMEA-WEIGHTED.

HILITARY

SOX 2-11

N02

IHC CO CO2 NOX NO I.S4 72.3 8168 6.51 4.28

EAMAUST MASS EMISSION INDICES :

ENGINE J60-P5B

MEPUNT UATE 12/15/75 USAF CONTRACT F29681-75-C-8846	ENGINE 3. NUMBER 1	TEST CELL NUMBER: PSHRI TEST CELL NUMBER: PSHRI TEST CELL OPERATUR: FC SCOIT SUPERVISOR: MHS INSTRUMENT OPERATUR: FAL SHOKE OPERATUR: LAL	FUEL ANALYSIS :	* Z . Z . Z		NOX NO NOZ **** SHUKE		16.57 3.15 16.98	31.81 4.85 18.58	j	XOS ZON ON YON	10.5	3.49 8.92	11.29 1.43
				E.G. F		505 *	1.42	1.61	2.54		20.3	1356	4518	8564
	•		30	: 23 LPM E: 340 DE E5 FT.		CO	269.47	133.84	44.98		0.0	74.7	23.7	0.0
SET 1492-D#5-1275	c115 12 : 31		SAMPLE LINE :	LENGTH : 23 LPM TEMPERATURE : 180 DEG.F LENGTH : cs ft.		PITC		,	1.19	,	THC	6.92	4 20	5
SET 1.	TEST DATE		Ŋ			ار ج	1.604	1.662	2.481		700	3.5	50.0	8.53
						FIA	- 487	0 20	. 412		0.5	7 2	2.13	4.15
			1 2	1348 68.8 64.88 63	2699-9	F/A ACT			913-		- NOK	1.58	2.77	4.64
TURY		Ī				FLOW */HK	43275	133627	171321		JUS NOT	1862	3116	3136
ULUGY INC. IONS INVEN	YPE B	TARS.	IONS :	5.1AKI 1288 1288 13.8 140) : 29.82	1. 0.4491	F JEL ST FLOW	1	1654	2719	••	•	38.22		
IL TECHNIES EMISS	25. TYPE	637867 637867 ESULIS	CONDI	11ME) 1 (DEG.F) (SS. (IN- TY (#)		THRUST #				UNI NO1	1rdC	15.21	00 m	
OWNENTA E ENGINE	UMBER	6 #00E 1 # : E TIME TEST #	HENTAL	TEMP.	M9/021	AA1EU PULER	1	C 25 ;	163	S EMISS				
SCOTT ENVIRONMENTAL TECHNULUUY INC. USAF TURBINE ENGINE EMISSIONS INVENT INDIVIDUAL ENGINE TEST REPURT	SCUTT TEST JUMBER	ENGINE TYPE & MODEL: J64-P5 ENGINE SERIAL #: 637#67 TOTAL ENGINE TIME: # MRS. PERFORMANCE TEST MESOLIS: PASS	FEST ENVIRONMENTAL CONDITIONS	TEST TIME (MIL.TIME) 8 INLET AIM TEMP. (DEG.F) 8 ATMOSPHERIC PRESS. (IN.MG) RELATIVE MOMINITY (%) 8 MOMENTAL AIM DELATIVE MOMINITY (%) 8	1	TEST MOVE	1	INTERMED. 2	MILITARY	EXHAUST MASS EMISSION INUICES		IDLE	INTERMED. 2	MILITANY

EMISSION DATA ARE AREA-WEIGHTED. \*\* AVENAGE CONCENTRATION AND MASS

SCOTT ENVIRONMENTAL TECHNULUGY INC. USAF TURBINE ENGINE EMISSIONS INVENT INDIVIDUAL ENGINE TEST REPURT	MENTAL TE ENGINE EN	ECHNULU MISSION F REPUR	GY INC.	URY			SET 14	SET 1492-DB5-1275	S.		USAF	CONTRAC	PURT DA	REPURT DATE 12/15/75 USAF CONTRACT F29681-75-C-8846	775
SCOTT TEST NUMBER		29. TYPE	r				TEST DATE :	E: 5/12/75	75			iu.	ENGINE	3. NUMBER	v
ENGINE TYPE & MOUEL : JOB-PSD ENGINE SERIAL # : 636976 TOTAL ENGINE TIME : # MKS. PERFORMANCE TEST RESULTS : MASS	, MUULL : - # : 6365 - TIME : TEST RESUL	J68-P5 976 1 1 2 2 1	PSG HRS• FASS								<b>J</b>	TEST LOCATION TEST CELL TEST CELL SCOTT SU		39	691 FC 261
AIR FLOW MEASUREMENT METHUD : BELLMUUTH	SUKEMENT "	HE THUD	: מבררשת	UIT								NS SNT	INSIRUMENI OFERATOR SMOKE OPERATOR	• ••	FAL
TEST ENVIRONMENTAL CONDITIUNS TEST TIME (MIL.TIME): INLET AIM TEMP.(DEG.F): ATMOSPHERIC PRESS.(IN.HG) RELATIVE HUMIDITY (%): INLET AIM MUMIDITY (%): (GM H20/GM DRY AIM):	T ENVIRONMENTAL CONDITION TEST TIME (MIL-TIME): INLET AIR TEMP-(DEG-F): ATMOSPHERIC PRESS,(IN-MG RELATIVE HUMIOITY (%): INLET AIR HUMIOITY (%): INLET AIR HUMIOITY (%):	40ITIUN 5.F) : (IN.HG) : (4) : AIR) :	5 : 5TARE 938 71.2 71.2 59.67 62 62 62 63 64181	~ 2 V ~ 4	1816 1816 76.8 29.66 55		₹ S	SAMPLE LINE: FLOW RATE: TEMPERATURE LENGTH: SS	: 23 LPM E : 348 DEG.F c5 FT.	)EG•F		FUNCTION OF THE PROPERTY OF TH	FUEL ANALYSIS: SAMPLE #: 4 IYPE: JP-4 ITYPE: JP-4 ITYPE: JR-5 ITYPE: JR-7 ITTR-7	70	5.72 4.14 1.98 1.98
TEST MODE	AATED F	Teushi *	FJEL FLOW #/HR	AIR FLOW */HR	F/A ACT	FIA	я 3	THC	C Mad	€ 505 *	X A A	5 g	N A A	SMUKE	1Ke = 1
			1 2 2 2	54123	2 20	20	1.491	85.69	541.40	1.52	6.72	86.7	2.69	1.54	0.023
INTERWEGO. 2 NORMAL MILITARY	47		1458 2175 2588	132743 157499 168374	418		1.581 2.138 2.449	4 E E	17.00	2.19	28.69 39.89	23.44	0 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	22.68	8.823 1.823
EXHAUST MASS EMISSION INDICES	Em15510N	INUICE													
	THC	THC	*	1693# U2	•	250	705	IHC	00	CU2	NOX NOX	ON.	20N	SOX	
IDLE INTERMED. 1 INTERMED. 2 NORMAL	6 6 6 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 0 7			1.35 2.26 3.84 4.21	8.18 1.69 2.44 3.51	11.17	2.77 6.63 6.45	28.17 21.8	1348 3188 4521 6815	2.26 2.26 4.41 9.16	1.69 1.69 7.64	6.57 6.83 1.51	)	
MILITARY	9.15		)	136	56.4	4.15	9	W-37		7841	12.38	16.39	25.	1.00	

AND MASS \*\* AVERAGE CONCENTRATION

						4 / B	23)	8.823µ 8.823.			
175	T.	FC 261	85.72 14.14	1.90	9.40	OKE.	8.823	3 3			
E 12/15	• NUMBE	DREWS ER: 6 ATOR: ATOR: ATOR:	4			SN WAYE	#.25	17.25		SUX	1.21
REPURT DATE 12/15/75 ACT F29681-75-C-8846	ENGINE 3. NUMBER	I LOCATION: ANDREWS JEST CELL NUMBER: P648 TEST CELL OPERATOR: FG SCOTT SUPERATOR: #41 LNSTRUMENT OPERATOR: #41 SMOKE OPERATOR: #41	 FUEL ANALYSIS : SAMPLE # : TYPE : UP-4 WI-8 CARBON : WI-8 HYDROGEN	WI.* SULFUR : H/C RATIO-AIM.	C/H RATIO-MASS:	NO2 PPM	6.65	5.11 6.91		N02	8.67 1.54 2.25
REPURT DATE 12/15/75 USAF CONTRACT F29681-75-C-8846	ш	FEST CELL NUMBER : FEST CELL NUMBER : FEST CELL OPERATUR SCOTT SUPERVISUR INSTRUMENT OPERATUR SMOKE OPERATUR	FUEL SAMP TYPE WI-8	# U Z	5	ON d	B.51	22.21		02	6.71 18.83
USAF		31				XON T	7.16	27.32 37.88		NOX H	8.25 12.28
			EG.F			C02 *	1.54	2.28		200	1472 6344 8075
	2		: 23 LPM E : 340 D =5 FT.			C 30 G	582.14	63.64 51.31		00	75.8 11.7 18.1
SET 1492-085-1275	E: 5/13/73		SAMPLE LINE: FLOW MAIE: 23 LPM TEMPERATURE: 340 DEG.F					2.54		LHC	46.34
SET 14	TEST DATE :		as ,			a X	1.879	2.176		N02	1.17
						FIA	588	.613		00	3.98
			FINISH 1125 79.8 29.64	ንሪ	8 118	FIA	689	.915		OEL	1.48
ř		E be-				FLOW #/HR	55452	159749		# E	:
INC.		GELLMUU		28	#.#115	FJEL FLOW #/HR	907	2575		\3 *	i
HNULUGY SSIUNS REPURI	34. ITPE A	64-754 646 HKS 5 : FAI	1110NS 1						NDICES	) H	73.18
E EMI	34.	53692 53692 5361 1	CUND FINE) (DEG.	٠ ٢ ٢	DRY A				1 NO.	THC	A . 86
ENGINE	MBER	TINE TEST RESTORES	TEMP.	HUMID	(GM HZB/GM DRY AIR) :	KATED POWER	E,	97 163	EMISS	i	
SCUTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENTURY INDIVIDUAL ENGINE TEST REPORT	SCUTT TEST NUMBER	ENGINE TYPE & MUDEL: JOB-PSd ENGINE SERIAL #: 63692# TOTAL ENGINE TIME: 1640 MMS. PERFURMANCE TEST RESULTS: FAIL	TEST ENVIRONMENTAL CONDITIONS TEST TIME (MIL.TIME): INLET AIR TEMP. (DEG.F): ATMOSPHERIC PRESS. (IN.HG):	RELATIVE HUMIDITY (INLET AIR HUMIDITY	(P H2)	IEST MODE	10LE	WORMAL MILITAMY	EXHAUST MASS EMISSION INDICES		IOLE NORMAL MILITARY

SCUTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENI INDIVIDUAL ENGINE TEST REPORT	HENTAL TE INGINE EM INE TEST	CHNOLUG ISSIONS REPORT		ORY S			SET 14	SE 1492-D0S-1275	S		USAF	REPURI UATE IZ/15/75 USAF CONTRACT F29681-75-C-8846	PURT UAT T F29601	REPURI UATE 12/15/75 ACT F29681-75-C-8846	75
SCULL TEST WIMBER		31. TYPE B	r				TEST DATE	E: 5/15/75	75			Ð	ENGINE	3. NUMBER	
ENGINE TYPE & MODEL : JAW-PSU ENGINE SERIAL # : 637#64 TOTAL ENGINE TIME : 2844 MMS. PERFORMANCE TEST MESULTS : PASS ALM FLOW MENGUREMENT METHOU : DELLMOUTH	MODEL : 6378 TIME : 6378 SST RESUL	JA6-PSG 364 HPS- 2844 HPS- 15 : PASS	S.5	<u>r</u>							Ξ.	TEST LOCATION TEST CELL TEST CELL SCOTT SC	7	<u>,</u>	2
												į	2000000		
TEST ENVIRONMENTAL CUNDITIONS	NIAL CON	OITIONS	••		FINISH		S.	SAMPLE LINE : FLOW MATE : 23 LPM	. 23 LPM			SAMP	SAMPLE # :	. 4	
TEST TIME (MIL.TIME) :	MIL. TIME		1327		1514			TEMPERATURE : 3-8 DEG.F	0 9-4 : 3	EG.F		TYPE	. JP-4		
INLET AIR TEMP. (DEG.F.) :	EMP. (0E6	(4.	79.5		18.8			LENGTH :	CS FT.			根・上耳	MI. & CARBON		92.10
ATMOSPHENIC PRESS. (IN. HG)	PRESS.		. 29.65		59.67							# # # 3	TI A SIE FUE		7 3 3
RELATIVE HUMIDITY (%) :	MATOLIY (	 ⊊ ı	7 7		0							H	RATIO-ATM.:		1.91
(6M H2	(GM HZB/GM ORY AIR)	AIR) :	4.0162		5699.8							CZH	C/H RATIO-MASS:		Q
			FJEL	AIA		1		9		Č	ğ	9		SON THE	
TEST MODE	POWER	- NO TE	# / HK	#/HX	ACT	CALC	۳ ۲	PPAC	5 6	× 20 ×	X dd	H dd	PPR	25	W/A
					-	-									
3701	£ 3		38.3	29188	699.	. 968	1.055	95.66	528.47	1.61	8.83	6.63	7.18	19.0	0.623
INTERMED. 1	7.5		475	118173	. 668	899.	1.361	6.57	186.24	1.68	12.21	8.97	3.24	3.75	9.4631
INTERMED. 2	92		50+1	138956	. 611	999.	I.64S	3.49	124.82	1.71	16.56	13.86	3.56	9.15	6.863
NOKMAL	11		6141	156878	. N13	919	2.109	2.59	69.62	2.00	27.59	22.19	4 4 4 5 C	10.33	2000
MILITARY	193		5458	166391	5 A 1 S	·#12	6.413	, , , , , , , , , , , , , , , , , , ,	41.28	16.2	28.10	26.55	97.0		2000
EXHAUST MASS EMISSION INDICES	NOISSIM	INDICES	••												
			#	LANS BUTT	UF1 -		* 1				* H			•	
	THC	23		CU2 N	NON	ON	201	THC	00	CU2	NON	0	NOS	50x	
		'	1	i	-		100		ŀ		77		24 0	1	
IDLE	4.34				1.58	9	1.39	3. S.		7641	0 -	604	10.0	Z (	
	77.6	ì			2.30	100	50%	24.5		7382	10.7	2.49	100		
INTERMED. 2	4.20	_			01.	200	# O P			4570	2	7.53			
MILITARY	3.00		<b>-</b> -∩	3131 4 3136 5	5.85	4.24	9 9	6.11	000	7684	12.38	18.48	1.49	1.47	
** AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE MASS-WEIGHTED.	ICENTRAT!	UNA NO	MASC EM	U NOTSSI	AIA AR	- MASS-	WE16HTED								

40	7	89 I FC 26 I	FAL		5.72 4.14	1.98 6.86	Ke	1.8262	#.#262 #.#262				
E 12/15/	3. NUMBER	3	• ••		⊅ ⊶ 		SN SHUKE	1.58	22.25		×0.5	20.0	1.66
NEPONT DATE 12/15/75	ENGINE 3		SMOKE OPERATOR	FUEL ANALYSIS	TYPE : JP-4 MT.% CARBUN : MT.% HYDROGEN MT.% SULFUR :	H/C RATIO-ATM.: C/H RATIO-MASS:	NOS	7.64	5.78		N02	6.69	1.62
HEPOHT DATE 12/15/75 USAF CONTRACT F296#1-75-C-##46	ш	TEST LOCATION TEST CELL TEST CELL SCOTT SI	TS SEE	FUEL	# # # # # # # # # # # # # # # # # # #	77	o d d	8.78	25.99		S.	8.87	7.39
USAF		Ä					NON F	8.43	31.69 46.31		NOX	9.76	9.#I
							505 *	1.68	2.42 2.98		203	1451	6581 7686
					: 23 LPM E: 339 DE ES FT.		Sa	557.88	64.55 48.17		00	34.7	11.2
SE! 1492-0#5-1275	E: 5/15/75			SAMPLE LINE :	FLOW KALE: 23 LPM TEMPERATURE: 330 DEG.F LENGTH: 55 FT.		THC	182.48	2.60 1.40		IHC.	3.23	<b>6.28</b>
SE1 14	TEST DATE			SA			A A	1.854	2.13¢ 2.413		402	1.44	6.77 8.88
							FIA		.412		S	9.15	3.52
					1514 1514 78.8 29.64	5699.9	F/A ACT	15 2			FUEL	1.59	4.29 5.18
1047			оотн				FAIR	55162			10:4#	3823	3134
GY INC.	၁	d 45. ASS	÷ שבררש	••	51AK1 1327 19.5 19.5 1. 29.65	W-81#	FUE FLOFF ALX	488	14.85 21.83 2458		#	i	5.33
ECHNULU MISSION I REPUK	32. TYPE C	358-P3 864 2848 H	METHUU	NUITION	(5.F): (1N.HG) (4):	A1H) :	THRUST *			INUICE	1	•	16.16 1.66 3.
MENTAL TENGINE E		MGUEL : # : 637 TIME : EST RESU	UMEMENT	ENTAL CO	CMIL.TIM TEMP. (DE C PRESS. UMIDITY	T AIR HUMIDIIY - (CM H28/GM DRY AIR)	HATED POWER	43	85 97 183	EMISSION	THC	6.73	<b>3 5</b> ,
SCUIT ENVIRONMENTAL TECHNULUGY INC. USAF TURBINE ENGINE EMICSIUMS INVENTURY INDIVIDUAL EMGINE TEST REPURF	SCULL LEST MASER	ENGINE TYPE & MODEL : JOH-PSG ENGINE SEMTAL # : 637#64 TOTAL ENGINE TIME : 244# MMS. PERFORMANCE TEST RESULTS : PASS	AIR FLUW MEASUMEMENT METHOU : BELLMUUTH	TEST ENVINONMENTAL CONDITIONS	TEST TIME (MIL.TIME): INLET AIR TEMP.(DEG.F): ATMOSPHEMIC PRESS.(IN.#1G) PELATIVE HUMIOITY (%):	INLET AIR HUMIDITY (GM M28/GM DRY	TEST MODE	1DLE INTERMED. 1		EXHAUST MASS EMISSION INDICES		IDLE	INTERNED. 2 NORMAL MILITAMY

\*\* AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE MASS-WEIGHTED.

REPORT VATE 12/15/75 USAF CONTRACT F29681-75-C-##46	ENGINE 3. NUMBER 18	TEST LOCATION: ANDREWS TEST CELL NUMBER: POBBI TEST CELL OPERATOW: FC SCOTT SUPERVISOW: WHS INSTWUMENT OPERATOW: FAL	FUEL ANALYSIS: SAMPLE #: 4 IYPE: JP-4 WI-& CARBON: 85-72 WI-& HVORUGEN: 14-14 WI-& SULFUR: 8-83 H/C RAIIO-AIM.: 1-95 C/H RAIIO-MASS: 0-80	NON NO NOS SMUKE
SET 1492-1985-1275	TEST DATE: \$728775		SAMPLE LINE: FLOW RATE: 23 LPM TEMPERATURE: 348 DEG.F LENGTH: 55 FT.	F/A EPH THC CO CUZ
SCUTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENTURY INDIVIDUAL ENGINE TEST REPORT	SCOTT TEST NUMBER 36. TYPE F	ENGINE TIME & MUDEL : JOH-MOD ENGINE SERIAL # : 630975 TOTAL ENGINE TIME : 2778 MMS. PERFORMANCE TEST MESULTS : FAIL	TEST ENVIRONMENTAL CUNUITIONS: STAFT FINISH TEST TIME (MIL.TIME): 1385 1413 INLET ALM TEMP.OEG.F): 88.8 62.8 ATMOSPHERIC PRESS.(14.74): 29.76 RELATIVE HUMIUITY (#): 35 INLET ALM HUMIUITY (*): 35 INLET ALM HUMIUITY (*): 8.8885	TEST MODE AATED THRUS! FLUW FLOW F/A

\*\* AVEHAGE CONCENTRATION AND MASS EMISSION DATA ANE MASS-WEIGHTED.

THC CO CO2 NOX NO NOS

EXMAUST MASS EMISSION INDICES :

- 37

. THC C0 C02 NOX NO NOZ SUX

ENGINE J60-P3

15/75 	dEx ≥	10 / 10 / 10 / 10 / 10 / 10 / 10 / 10 /	. מינו		85.7∠	14.14 8.83	1.4° 6.8° 6.8°	SMUKE	!					W W.W231
E 12/ -75-C	. NCM	IDREWS IER : ATOR ISUR	ATOR			 7	Μ.: SS:	1 3		1.54	16.50	18.75	21.0	22.5
REPORT DATE 12/15/75 USAF CONTRACT F29681-75-C-8845	ENGINE 3. NUMBER 2	TEST CELL NUMBER : PGURI TEST CELL NUMBER : PGURI TEST CELL OPERATOR : FC SCOTT SUPERVISOR : MESTALLINGENT OF STATEMENT OF	SMOKE OPERATOR	FUEL ANALYSIS :	TYPE : JP-4	WI.% HYDROGEN WI.% SULFUR :	H/C RATIO-ATM.: C/H RATIO-MASS:	N 000		8.85	1.66	1.67	2.20	5.69
E CONTRAC		EST LOCAL TEST ( TEST ( SCO)	S	FUEL	TYPE 1.TB	2 E E	52	000		6.62	11.93	16.41	26.78	36.53
USAI		Ī						X 02 0		1.47	13.59	18.07	29.83	39.22
					DE G.F			C02 *		1.40	1.67	1.77	2.34	2.81
វិប	7.5				E : 168			S		558,45	255.42	137,41	68.38	52,50
SET 1492-005-1275	TEST DATE : 57 5/75			SAMPLE LINE :	TEMPERATURE : 188 DEG.F LENGTH : 45 FT.			E O		148.84	10.83	5.#I	2. I4	8.42
SET 14	TEST DA			15				FPR		1.074	1.371	1.724	2.215	2.468
								F/A	1 1	188.	D 20 .	A 18 18 C	. 6 11	· 8 14
				3	1538	29.56 65	788a.	FIA		699.	. 611	. 611	.613	910.
JRY			111					FLOW FLOW		53185	96878	135447	ISPABB	167265
oy INC.	r	KS. ASS	: אברראחי				4. A 400	FJEL		#84	1825	1550	2125	5625
TECHNOLU EMISSION SI REPUR	26. TYPE H	: 368-43 7236 8 H	ME THUU	ONOITION	ME) :	(IN.HG)	T AIR HUMIDITY - (GM HZWZGM DRY AIR) :	RATED THRUST						
MENTAL ENGINE GINE TE		MODEL # : 63 TIME : EST RES	UKEMENT	ENTAL C	TEMP. (0	C PRESSUMIUITY	HOMIOIT	KATED		£ *	75	å5	77	183
SCUTT ENVIRONHENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENTURY INDIVIDUAL ENGINE TEST REPORT	SCULL TEST NUMBER	ENGINE TYPE & MODEL : JOH-P3 ENGINE SERIAL # : 637236 TOTAL ENGINE TIME : # MKS* PERFORMANCE TEST RESULTS : PASS	AIR FLUW MEASUREMENT METHUU : BELLMUUIN	TEST ENVIRONMENTAL CONDITIONS :	TEST TIME (MIL.TIME) : INLET AIR TEMP. (OEG.F)	ATMOSPHERIC PRESS. (IN. HG) RELATIVE HUMIDITY (%) :	INCET AIR HUMIDITY (GM HZB/GM DRY	TEST MODE		IDLE	INTERMED. 1	INTERMED. 2	NOMMAL	MILITARY

				-			*			¥ / #		1
	THC	3	2no	NOX	S	70×	THC	5	C02	YON	0	
				•								•
IDLE	64.11	75.68			1.47		5.52	36.3	1436	<b>8.8</b>	11.0	
INTERMED. 1	8.73	26.62			2,31		# . 75	27.3	3176	2.78	2.37	
INTERMED. 2	W . 32	15.45			3.83		# . 56	23.9	4832	5.17	69.4	
NORMAL	9.10	5.81			3.74		6.50	12.3	5657	8.63	7.96	
MILITARY	19.9	3.73			4.26		9.1.0	9.6	8233	12.01	11.19	

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\*\* AVERAGE CONCENTRATION AND MASE EMISSION DATA ARE AREA-WEIGHTED.

EAHAUST MASS EMISSION 1401CES :

275 NEPORT DATE 12/15/75 USAF CONTRACT F29681-75-C-8846	57 6/75 ENGINE 3, NUMBER 3	٠, <del></del>	SMOKE UPERATUR : DJU		E: 23 LPM URE: 3S@ DEG.F	IOMS SMOR	634.62 3.47 7.98 3.80 4.82 2.58 8.8238	192,94 1.64 12.43 9.83 2.68 5.88	123.74 1.04 13:04 13:48	58.74 2.48 34.93 32.62 2.31 11.25			C CO COS NOX NO NOS SOX	37.7 1369 8.77 8.38 8.47	3151 6.49	11.4 6581 8.43 7.71 8.71	14.2 7839 11.52 14.76 4.76
SEI 1492-0#8-1275	TEST DATE : 5/			SAMPLE LINE	FLOW KATER : TEMPERATURE LENGTH : , , ,	F/A EPR THC CALC PPMC	798-1 ABB.	1.393	75-54 /00-1 SEE.	2.459		****	NO NOS INC	1.02	10.99 40.1 10.99 40.1	6.34	27.9
Y INC. INVENTORY	æ	ŝ	: BELLMOUTH		57AK1 FINISH 1245 1485 69.5 73.8 29.58 29.52 62 56 8.8496 8.8897	FUEL AIR FLOW FLOW F/A */HR */HR ACT	984. 4981S 844	113678	16.86721 6411		•	# / 10:2# FUEL -	CUZ NUX	2775	3184 2.45	3134	31.36
SCOTT ENVIRONMENTAL TECHNULUGY INC. USAF TURBINE ENGINE EMISSIONS INVENTORY INDIVIOUAL ENGINE TEST REPURT	SCUTT TEST JUMBER 27. ITPE B	EVGINE TYPE & MODEL: JAW-P3 EVGINE SERIAL #: 597285 TDTAL ENGINE TIME: 2851 HMS. PERFORMANCE TEST RESULTS:	AIR FLOW MEASUMEMENT METHOU : BELLMOUTH	TEST ENVIRONMENTAL CUNDITIONS	TEST TIME (MIL.TIME): INLET AIN TEMP.(DEG.F): ATMOSPHERIC PRESS.(IN.MG) RELATIVE HUMIDITY (%): INLET AIR HUMIDITY (GM H78/GM DRY AIR):	NATED THRUST POWER #	5 101	34E0 - 1	INTERMED. > 85	MILITANY 143	EXHAUST MASS EMISSION INDICES	• • • • • •		13.86	٦.	NORMAL SOLES SOLES	× 2

				7   4   4   4   4   4   4   4   4   4
175	4	FERS DUO	145.70 145.70 145.70 145.70	25 27 27 27 27 27 27 27 27 27 27 27 27 27
E 12/15 -75-C-	3. NUMBER	01	* * * * * * * * * * * * * * * * * * *	SNUKE 1.28 13.25 13.25 13.25 13.25 13.25 13.25 13.26 1
MEPONT DATE 12/15/75 USAF CONTRACT F29681-75-C-8840	ENGINE 3	I LOCATION: ANDREWS TEST CELL NUMBER: TEST CELL OPERATOR SCOIT SUPERVISM INSTRUMENT OPERATUR SMOKE OPERATUR SMOKE OPERATUR	FUEL ANALYSIS: SAMPLE # # 4 TYPE: JP-4 WI-8 CARBUN: WI-8 HYCHOGEN: WI-8 SULFUR: WI-8 SULFUR: C/H RAIIO-MASS:	NO
CONTRAC	ш	TEST CELL TEST CELL TEST CELL TEST CELL SCUTT SI ANSTRUMENT SMOKE	TO TEER TO COLOR SERVING TO COLOR SERVIN	ND PPH 17 25.62 35.61 35.61 70 NO
USAF		31		NON
			E 6. F	CO2 2.52 2.52 2.53 2.54 2.54 2.54 2.59 7.919
	ñ		: 23 LPM RE: 35# U RS FT.	54.00 54
5EI 1492-005-1275	: 5/ 8/75		SAMPLE LINE : 23 LPM FLOW RATE : 23 LPM TEMPERATURE : 350 DEG.F LENGTH : R5 FT.	1HC PPMC 121.54 1.87 1.81 1.61 1.61 1.61
SET 149	TEST DATE:		AA.	1 1 1 2 2 2 1 1 2 2 2 2 2 2 2 2 2 2 2 2
				F/A CALC CALC WH11 WH12 W13 W23 W23 W23 W23
			FINISH 1284 74.8 29.82 48 6.8871	FOR A PER
ž		r -	E .	A1K #/HK #/HK 51574 158685 168247 168247 115 115 34
Y INC.	r	S. S. USLLMU	51ART 1912 64.9 : 29.92 78	28 4 1 1 0 E
CHNULUG 1951UNS REPURT	· TYPE	J64-P3 15 2519 HR TS : PA	U1T10N5 • F) : 1N•Hc) : - F) : - F) : - F) :	14205  FF
AENTAL TE	HER ZB	400EL : 13 63 63 63 63 63 63 63 63 63 63 63 63 63	VIRONMENTAL CUNUITION TIME (MIL.TIME): T ALK TEMP. (DEG.F): SPHERIC PRESS.(lw.Hu) TIVE HUMIOITY (%): T AIM HUMIOITY	# # # # # # # # # # # # # # # # # # #
SCUTT ENVIRONMENTAL TECHNULUGY INC. USAF TORBINE ENGINE EMISSIONS INVENTORY INDIVIDUAL ENGINE TEST REPORT	SCOTT TEST NUMBER 28. ITPE H	ENGINE TYPE & MUDEL : JAM-P3 ENGINE SERIAL # : 636415 TOTAL ENGINE TIME : 2519 PMS. PENFURMANCE TEST RESULTS : PASS ALR FLOW MEASUMEMENT METHUU : USLLMOUTH	TEST ENVIRONMENTAL CUNUITIONS: TEST TIME (MIL.TIME): INLET ALM TEMP. (DEG.F): ATMOSPHERIC PRESS.(IN.HU): MELATIVE HUMIDITY (%): INLET ALM HUMIDITY - (GM HPAL/GM DRY ALM):	TEST 400E HATEO THAUST F POWER # # # 101E

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\*\* AVEHAGE CONCENTRATION AND MASS EMISSION DATA ARE MASS-WEIGHTED.

SCUTT ENVIRONMENTAL TECHNULUUY INC. USAF TURMINE ENGINE EMIKSIUNS INVENTURY INUIVIDUAL ENGINE TEST REPURT	FENTAL TE INGINE EM SINÉ TEST	I SEPURT	INVENTO	אַל							USAF	CONTRAC	USAF CONTRACT F29681-75-C-8845	-75-C-##4	C +
SCUTT TEST WIMBER		33. ITPE A	A				TEST DATE	IE: 5/27/75	22			W	ENGINE 1. NUMBER	NUMBER	x
NGINE TEPE & MODEL : JAB-P3 NGINE SEGIAL # : 637234 OTAL ENGINE TIME : 2144 MRS* PEMFORMANCE TEST RESULTS : PASS	MUDEL : 6372 IINE : 5372 SJ RESUL	158-73 234 HK 2144 HK 15 : PA	• S								3	TEST CELL TEST CELL TEST CELL SCOTT SE INSTRUMENT		ຸ ຈີ	# 75 F 15 F 15 F 15 F 15 F 15 F 15 F 15 F 1
AIR FLUM MEASUMEMENT METHUD : BELLMUUTH	HEMENT H	E IHUU :	BELLMUL	E .								II.S	SMOKE OPERATOR	••	000
EST ENVIRONMENTAL CONDITIONS :	NIAL CON	SNOTTONS	Un.		FINISH		15	SAMPLE LINE FLOW RATE	: 23 LPM	<u>ب</u> ن		SAMP	FUEL ANALYSIS SAMPLE # :	+	
TEST TIME (MIL.TIME): INEET AIR TEMP.(DEG.F): ATMOSPHERIC PRESS.(IN.MG) RELATIVE AUMIDITY (*): INEET AIR HUMIDITY (*): (GM M2B/GM DGY AIR):	TIME (MIL.TIME): T AIN TEMP.(DEG.F) SPHENIC PMESS.(IN.N' TIME JUMIDITY (*): T AIN HOWIDITY - (GM MOBIGE DRY AIN)	1	1362 83.68 94.65 95.65 19.86	2	1445 87.8 24.54 54 8.8152			IEMFERAIONE : 300 DEG-T	r5 FT•			- BBBIO - HILL -	MISS CATH WITS CATH WITS HYDROGEN : WITS SULFUR : HYC RATIO-ATM: C/H RATIO-MASS:	7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	248.29
TEST YOUE		THRUS F	FJEL FLOW #/HR	FLOW */HK	FIA	F/A	п <b>д</b>	PPAC	Cad	C02	X M	04 04	NO2 PPM	SNUKE	Ke
I DLE	4.2		429	53732	2 2	20 20	1.864	96.391	534.42	1.63	7.64	26.43	3.81		6.8231 8.8231
41LI TA-T	163		2125	163297	. 613	-015	2.36g	5.00	53.64	2.48	32.68	47.72	4.34	200	W. 823:
EXHAUST MASS EMISSION INDICES :	NCISCIM	INUICES									- 8	,			
	THC	THC . CU	C02	1619#	1	OP.	707	THC	63	C02	X XOX	2	N02	SUA	
DLE	1.37	٥				91.10	1.33	3.16		1278	9.66	79.8	6.56	5.63	
JUNAAL JILITARY	5.53	34.34	36 31	35	4.24	3.67	H-57	14.	20	6662	9.81	7.80	1.22	1.27	

SCULL TEST NUMBER 34, TYPE	NGINE TES	ST REPURE	USAR IURBINE ENGINE EMISSIONS INVENTORY INDIVIDUAL ENGINE TEST REPURF SCOTT TEST NUMBER 34. TYPE B	ž			TEST DATE :	ATE : 5/27/75	7.5		PACU		ENGINE	USAF CONTRACT F29681-75-C-##45 ENGINE 3: NUM4EA	c r
ENGINE TYPE & MUUEL: JAW-P3 ENGINE SERIAL #: 636786 TOTAL ENGINE TIME: 1394 MMS. PERFURMANCE TEST KESULTS: PASS AIM FLOM MEASUMEMENT METHUU: BELLMUUTH	& MUDEL : L # : 636 TIME : TEST RESU	746 1394 HK LTS: PA	!S- В-ЕLLMU!	r D							<u>=</u>	TEST LOCATION TEST CELL TEST CELL SCOTT SU INSTRUMENT SMÜKE		, î	E E E O
TEST ENVIRONMENTAL CONDITIONS: TEST TIME (MIL.TIME): INLET AIR TEMP.(OEG.F): ATMOSPHENIC PRESS.(IV.HU): RELATIVE HUMIDITY (#): INLET AIR HUMIDITY (#): (OM #28/GM DRY AIR):	T ENVIRONMENTAL CONDITION TEST TIME (MIL.TIME): INLET AIR TEMP.(DEG.F): ATMUSPHEMIC PRESS.(IN.MG): KELATIVE HUMHUITY (*): INLET AIR HUMHUITY - (OM #28/GM DRY AIR):	NDITIONS (E): (G.F): (IN•H6) (#): AIR):	STAR! 1983 880.00 : 29.55 58	<b>L 3</b>	FINISH 2008 2008 2008 74 74 100139			SAMPLE LINE FLOW RATE TEMPERATUM LENGTH:	MPLE LINE : FLOW RAIE : 23 LPM TEMPERATURE : 3.18 DEG.F LENGTM : 55 FT.	E 6 • F		FUSE E T T T T T T T T T T T T T T T T T T	FUEL ANALYSIS : SAMPLE # : TYPE : JP-4 WI'S CARBON : WI'S HYDRUGEN : WI'S SULFUK : H/C RATIO-AIM:	** * * * * * * * * * * * * * * * * * *	45.76 14.14 1.98 1.98
TEST MODE	AATED POWER	THRUST #	FJEL FLOW #/HR	FLUW */IK	F/A ACT	FIA	P	THC PPC	C 300	C02	N D D A	S d O d	NOS PPR	SN MUKE	UKE
					-	-					,				
IDLE INTERMED. 1	43 75		925	54124	200	2000	1.888	91.68	531,23	1.55	7.43	1.11 8.51	3.78	2.75 8.75	W. B23
INTERMED. 2	a		1328	131328	919.		1.68A		122.48	1.74	15.88	12.54	3,35	14.88	W. #231
NORMAL	2		1986	151614	.813	ala.	2.473		18.28	2.11	23.78	24.16	3.54	19.8	4.823
MILITARY 183 FAHAUST MASS FMISSION INDICES	1#3 F#15510N	TADICES	#Sc5	I61359	t P	. 112	2.379	1.36	54.43	2.48	31.76	21.16	3.99	21.58	. 623
			4	14							3				
		THC CO	Ú		NON	Ç.	701	JHC		200	NOX	0	×02	SOX	
IDLE			94	1	1.51	8.23	1.29	86.5	ŀ	1344	19.67	9.18	19.57	4.67	
INTERMED. 2	B 1	13.99		0 T	2.53	2.35	100			4118	3.93	9 - 5	1000	E . 7.	
	2 2			32	3.68	3.13	10.5 10.5	68.9	200	965E	6.98	5.94	1.84		
MILITARY	3		4.40 31	35	4.20	3.67	65.9	H - 14		7854	6.45	8.26	1.19	I.35	

- 43

REPURT DATE 12/15/75 USAF CUNTRACT F296#1-75-C-##46	ENGINE 3. NUMBER 4	1EST CECL NUMBER: POUGH TEST CELL OPERATOR: FC SCOTT SUPERVISOR: WAS INSTRUMENT OPERATOR: FAL SMUKE OPERATOR: DJO	FUEL ANALYSIS: SANPLE #: 4 TYPE: JP-4 MI-8 CARBUN: 85-72 MI-8 HYDRUGEN: 14-14 MI-8 SULFUR: 19-83		NS HAD WAD	7.79 8.94 6.86 3.25 8.8262	26.74 22.73 4.80 20.25 8.8252 35.44 38.76 4.67 22.25 8.8252		ON	65.8	6.87 5.84 1.03 1.14 9.33 8.10 1.23 1.35
			ايد ق ق		cu2	1.64	2.42		CU2	1344	5951 7855
	Š		: 23 LPM E : 340 DEG.F <5 FT.			562,17	77.58 58.85		00	29.3	12-1
SET 1492-D05-1275	E: 5/21/13		SAMPLE LINE: FLOW MATE: TEMPERATURE LENSTH: C		THC	196.34	1.16		THC	C 4 - 2	# # # # # # # # # # # # # # # # # # #
SET 14	TEST DATE		A.		T A	1.488	1.682 2.873 2.379		305	1.32	8 • 54 4 • 5 A
					F/A CALC	1 10 12 1 12 1	218.		52	2	3.6 5.6 5.6 5.6 5.6 5.6 5.6 5.6 5.6 5.6 5
			FINISA 2488 75.8 27.58	9.4126	FIA		818. 515.		Ċ	1.58	3.66
¥		r n			FLOW */HK	54124	131328 151614 16175=		-	i .	3132
UGY INC. NS I WENTO	ن	3 PASS : SELLMUL	51AK 198 884. 29.55	3.6116		445	1328 1980 2050			05-19 3#2#	6.36 31 4.[9 3]
TECHNUL EMISSIU ST REPU	SS. TYPE C	: JSW-F3 5786 1394 HMS- JLTS : PASS METHUD : A	JND1110	AIA	THRUSE			O I NU I C	THC	'	\$ T
MENTAL ENGINE SINE TE		# : 630 TIME : EST MESO	CMILATION CONTRACTOR PRESSON DAILITY	COM HOSEZGM DAY AIN)	RATED POWER	15.	45	01881W3	1=	4.73	* *
SCUIT ENVIRONMENTAL TECHNULUGY INC. USAF TURNINE ENGINE EMISSIUMS INVENTURY INDIVIDUAL ENGINE TEST REPURT	SCUTT TEST 4UMNER	EVGINE 17PE & MOUEL : JSB-P3 ENGINE SEMIAL # : 616786 TOTAL ENGINE TIME : 1394 HAS. PERFURMANCE TEST RESULTS : PASS AIM FLUM MEASUMEMENT METMOU : HELLMOUTH	TEST ENVIRONMENTAL CUNDITIONS TEST TIME (MIL.TIME): INLET AIR TEMP.(DEG.F): AIMOSPHERIC PRESS.(IN.HG): HELATIVE HUMILUITY (*):	TALET AIR HOFFULLY	TEST MODE	IDLE INTERMED I	INTERMED. 2	EXMAUST MASS EMISSION INDICES		IOUE INTERNED.	INTERMED. 2 NOMMAL

MEPORT DATE 12/15/75 USAF CONTRACT F29681-75-C-8846	ENGINE 3. NUMBER 1	JEST LOCATION: ANOREWS TEST CELL NUMBER: "GARI TEST CELL OPERATON: FC SCOTT SOPERATON: #45 INSTRUMENT OPERATON: PAL SMOKE OPERATON: UJO	FUEL ANALYSIS: SAMPLE #: 4 TYPE: JP-4 MT-8 CARBON: 55-7 MT-8 MYDROGEN: 4-14 WT-8 SULFUR: 4-85 H/C RAIIO-AIM:: 1-96 C/H RAIIO-MASS: 6-66	62 NOX NO NO2 SMUKE 64 PPM PPM SN N/A 63 7.89 8.36 7.53 4.89 8.602 63 3.46 3.38 18.22 63 3.46 3.38 18.22 63 3.46 3.38 18.22 65 43.46 38.18 5.28 17.58 8.802 602 NOX NO NO2 SUX 602
5E1 1492-005-1275	TEST DATE: 5/28/75		SAMPLE LINE: FLOW MATE: 23 LPM TEMPERATUME: 388 DEG.F LENGTH: 55 FT.	1.694 PPMC PDM 1.1694 PPMC PDM 1.300
INDEDOT INC. SIONS INVENTURY EPURI	37. TYPE 0	L: JA6-P3 676845 : 1970 MKS. ESULIS: PASS NI METHUU: BELLMUUIM	110N5 : STARF FINISH 1655 1755 1659 1755 1669 1756 1690 1756 1690 1756 1756 1756 1756 1756 1757 1756 1758 1758 1758 1758 1758 1758 1758 1758 1758 1758 1758 1758 1758 1758 1758	THRUST FLUW FLAM ACT CALC 448 54845 .8844 .8444
SCUIT ENVIRONMENTAL LECHNOLOUT INC. USAF TORBINE ENGINE EMISSIONS INVENFURY INDIVIDUAL ENGINE TEST REFURF	SCUTT TEST NUMBER 37. I	ENGINE TYPE & MUDEL: JAW-P3 ENGINE SERIAL #: 636845 TOTAL ENGINE TIME: 1970 HKS. PEMFORMANCE TEST RESULTS: PASS AIM FLUM MEASIMEMENT METHUU: BELLMUUTH	TEST ENVIRONMENTAL CUNDITIONS: TEST TIME (MIL.TIME): INLET AIR TEMP (DEG.F): AIMOSPHERIC PRESS.(N.MO): RELATIVE MUMICUIT (#): INLET AIR HOMIDITY - (GM M2W/GM DOY AIR):	TEST MODE RATEO THRUST POWER  1DLE 101E 101E 101E 101E 101E 101E 101E 10

\*\* AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE AREA-WEIGHTED.

ENGINE J79-15

OSAF TURBINE ENGINE EMISSIONS INVENTUI INDIVIDUAL ENGINE TEST REPURT	46INE TE	ST REPUR	_												
SCUTT TEST WIMBER 34. TYPE	MUEN	34. ITPE	r				TEST DATE:	IE: 6/16/75	7.5			y	ENGINE 4. NUMBER	. NUMBE	 Y
ENGINE TYPE & MOUEL : J74-15 ENGINE SERIAL # : 424655 TOTAL ENGINE TIME : 144# MKS. PEMFURMANCE TESI RESULTS : PASS	. 400EL L # : 47 TIME :	: J74-15 9655 1488 HMS.	# S &								2	TESI LOCATION : KELLY AFB+1A TEST CELL OPERATOR : COC SCUTT SUPERVISOR : MHS INSTRUMENT OPERATOR : PH	I LOCATION : KELLY , TEST CELL NUMBER : TEST CELL OPERATOR SCUTT SUPERVISOR INSTRUMENT OPERATOR	SELLY AFE NUMBER: 45 OPERATUR: 0 DPERVISUR: 0	- 011 - 011
AIM FLUM MEASIMEMENT METHUL : 43T MEASUMEL	SIBMEMENT	MEINUU	: 4JT ME.	ASUMED								Š	SMOKE OPERATOR	••	000
TEST ENVIRONMENTAL CONDITIONS	MEWIAL C	ONDITION					S	SAMPLE LINE				FUEL	FUEL ANALYSIS		
IEST IIME (MIL.TIME) : INLET ALA TEMP. (DEG.F) : AIMOSPHEMIC PMESS. (IN.MO) PELATIVE HOMOLOGY (*) :	(MIL. II TEMP. (3) IC PRESS 10MIUITY	ME) : (12.16) : (4) :	1248 1248 98•8 98•8 98•8 59•8		1459 1459 24.85 47			FLOW KAIE : 23 LPM IEMPEKATUKE : 348 DEG.F LENGIM : 75 FT.	: 23 LPM 4E : 340 D 75 FT.	)E6.F		VH 3 3 3 1	TYPE : JP-4  MI-8 CAMBUN : MI-8 HYDRUGEN : MI-8 SULFUR :	D	100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
T *5)	40 HOVE		1.8147		2-10-0							2	C/H RATIO-MASS:		200
1EST MODE	KA TEU PUMER	Taus I	F JEL FLOW ZAR	FLCE	F/A	FIA	۳۱ ټ	THC PPAC	Coad	C02	PPW	od X	NU2 PPM	SN SMUKE	JKE
1916	4	675	1,25		;	1 6		1 2 4 6 4	325 87	4.96	7.33	4.79	7.54	15.65	6.6234
INTERMED. 1	75	1340	1598			70%		37.46	120.12	9.72	7.12	4.62	2.58	26.63	8.823°
0	43	4571	7345			. 14.		17.12	39,36	2.33	39.94	34.85	5.89	63.40	1.9231
NO.	9	1/24	5265			· 10 cm		0 t	44.58	100	07.07	26.55	3.92	00.00	629
MILLIAKT MID AS		12197	15454			. 863		183.68	1158.44	4.52	62.29	23.98	41.31	51.5	8.823 8.823
EXMAUST MASS EMISSION INDICE	EM15513	N INDICE	••												
			:	18-3# FUEL	FUEL		•				# / HK			*	
	-	į	200 00	20	NO.	2	100 m	HC	် (	200	X 1 1 2 1 1	2	N02	203	
10LE	וו				2.41	1.58	B . R4	6.39	i	3334		1.77	90.0	8.22	
	tf.				3.15	5.45	1.1.	31.6	51.5	4879		3.25	1.76	4.32	
INTERMED. ?	39				29.6	4.74	<b>6</b> 8 3	91.9		22974		35.17	6.68	7 :	
NORMAL All Flack	-	1.71	7.4.6	3124	4.73	4.6.1		24.8	26.8	27740	68.47	58.18	200	11.1	
1		•		4 3 6	,			74.06	9	2 7	74. 57	28.13	77 87		

SCUTT ENVIROUMENTAL TECHNOLOUT INC. USAF TOHBINE ENGINE EMISSIUMS INVENTURY INDIVIDUAL ENGINE TEST REPORT	HENTAL ENGINE IGINE TE	TECHNOLUI EMISSIUN SI REPUR	of 14C.	Ť			5E 1	5E1 1492-006-1275	75		USA	REPORT VATE 12/15/75 USAF CONTRACT F296#1-75-C-##46	MEPOHI VAIE 12/15/75 ACI F296#1-75-C-##46	1E 12/15 1-75-C-0	944
SCUTT IEST TUMSER		sv. TIPE 3	τ				rest 0	TEST DATE: 5/19/75	775				ENGINE 4. NUMBER 2	4. NUMBE	~ ¥
ENDINE TIPE & MUDEL: J79-IS ENGINE SEMIAL #: 434487 TUTAL ENGINE TIME: 1548 MKS. PLAFURMANCE TEST MESULIS: MASS AIM FLOM MEASUMEMENT METHUU: NOT MEASUMED	S MODEL # : 43 TIME : TEST MES	1 379-15 4487 1588 H	KS. ASS NUT MEA	SUMEU							2	TES! LOCATION: KELLY AFB+TA TEST CELL NUMBER: 45 TEST CELL OPERATOR: CDC 5COTT SUPERVISOR: WHS INSTRUMENT OPERATOR: PR SMOKE OPERATOR: DJU	1 LOCATION : KELLY A TEST CELL NUMBER : TEST CELL OPERATOR SCUTT SUPERVISOR SKOTT OPERATOR SMOKE OPERATOR	BER: 45 RATOR: 45 VISOR: 4 RATOR: 1	AT SOLUTION OF THE SOLUTION OF
TEST ENVIRONMENTAL CONDITIONS: TEST TIME (MIL.TIME): INLET ALW TEMP.(NEO.F): ATMOSPHEMIC PRESS.(14.MO): RELATIVE HOMIDITY (F): INLET AIR HOMIDITY (F): (OM HORIGHT)	MIL.II TEMP. () IC PRESS HUMIOITY POMIOITY POMIOITY	TIME (MIL.TIME): TIME (MIL.TIME): TAIN TEMP. (DEG.F): SPHEMIC PMESS. (IN.MO): TAER HUMIUITY (+): TAIN HUMIUITY -: (UM H28/GM DDY AIR):	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	ū	1518 1515 1515 29.92 29.94 29.84			SAMPLE LINE : 23 LPM FLOW RATE : 23 LPM TEMPENATURE : 300 I	MPLE LINE : FLOW RATE : 23 LPM TEMPEMATUKE : 388 DEG.F LENGTH : 75 FT.	E 6 • ñ		TERRETORIO	FUEL ANALYSIS: SAMPLE B: TYPE: UP-4 MI-8 CARBON: WI-8 HYDROGEN: MI-8 SULFUK: HC KATIO-MASS:	.vv	85.37 14.27 8.81 5.98
TEST MODE	T A J	150541	FUEL FLOW #/HK	FLOW FLOW	F/A ACT	FIA	3 X		C S d	205	A D D A	21 21	NOV P P P P P P P P P P P P P P P P P P P	ž	SN W/A
JULE   JULE	25, 25	12041 12041 14041 1414 1414	1346 1346 1346 1346 1245 1246 1346			1	! ! ! !	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	163.74 163.74 31.27 48.98 1784.36	20 43 7 44 3 44 44 44 44 44 44 44 44 44 44 44 4	7.12 8.69 47.73 32.79 56.24	3 2 3 3 2 3 4 4 2 5 5 6 6 8 9 8 9 8 9 8 9 8 9 8 9 8 9 8 9 8 9	3.84 3.84 3.89 32.93	62.75 62.75 62.75 62.75 68.75 68.25	

1.32 3.49 44.62 27.87 78.87

CU2 3447 4762 23185 17269 28833 95674

20.00 20.00

INTERMED I INTERMED I INTERMED A NUMBAL MILITAKY

MEPONT DATE 12/15/75 USAF CUNTHACT F296#1-75-C-##40	ENGINE 4. NUMBER 3	IESI LUCATION : KELLY AFM•TA  TEST CELL NOMBER : 45  TEST CELL OPERATOR : M  SCOUT SUPERVISOR : MH5  INSTRUMENT OPERATOR : PA  SMOKE OPERATOR : DJU	FUEL ANALYSIS : SAMPLE # : 5	TYPE : JP-4 MT-8 CARBUN : 65.3/ MT-8 HYDPUGEN : 14-2/ WT-8 SULFUN : 4-81 H/C RATIO-ATM : 2-81 C/H RATIO-MASS: 5-45	NOS SMGA	2.21 19.40 W.0231 4.43 42.30 B.023.	27.43 3.53 59.10 8.823:	4.86 6I.75 29.38 38.25	<.	NOS SON ON	~ ~ 3 3 7
USAF		16.5			NON Mgg		4I.46			# XON	61.98 34.64 181.45 113.93
			i	E 6 • 11	C02	1.02	1.58	1.83 6.85		502 C02	3488 4574 22748 16384 28188
.0	7.5		: 23 LPM	75 FT.	S A G	276,37	31,19	25.52 1692.53		00	04 4 B O Z
SET 1492-1386-1275	E: 6/28/73		SAMPLE LINE	ТЕМБЕМАТИКЕ : ¬ИВ DEG.F LENGTH : 75 FT.	THC	81.41				HC	16.59 2.32 8.92 1.24 1.24 1.491
SET 14	TEST DATE :		SA		ارا بر					202	5 2 2 1 1 2 2 2 1 1 1 2 2 2 2 1 1 2
					F/A	22	0			ON.	8.73 7.76 5.46 18.43
			FINISH	1844 82.4 29.23 52 52 6.8124	F/A ACT				,	FUEL	8.51 6.65 11.38
IUKY		EASUALU								# 1.	3622 31631 3129 3126 3131 3638
No INC	T.	TASS	••		1.00. 1.00. 1.00.	1125		9975 32178	۴۶ :	•	14.54 14.54 15.53 15.54
TECHNOLI EMISSION SI PEPO	48. IYPE	. 374-1 4359 1888 JLTS : 8	UNU1110	ME) : E(0.F) : ((10.HC) (+) : Y -   Y -   Y -	I SUSHI	653	4769	18557	N 1401C	1	1 2 2 2 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
MENTAL ENGINE SINE TE		ACDEL  * * 43 TIME : EST RES	ENTAL C	IIME (MIL.TIME) : I AIM TEMP. (DEG.F) SPHERIC PMESS.(1V.M) ILVE HOMIDITY - (5M H29/6M USY AIM)	AATED PONEN	65	J 1	1 6 6	E4155I0	! -	
SCUTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENTORY INDIVIDUAL ENGINE TEST REPORT	SCULT TEST NIMBER	ENGINE TYPE & MUDEL : U74-13 ENGINE SERIAL # : 434359 TUTAL ENGINE TIME : 1488 DRS+ PERFURMANCE TEST RESULIS : PASS AIM FLUM MESSUMENENI METHOU : 431 MEA	TEST ENVIRONMENTAL CONDITIONS	TEST TIME (MIL.TIME) : INLET AIM TEMP. (DEG.F) : ATMUSPHERIC PMESS. (IV.MU) RELATIVE HOMIDITY (+) : INLET AIM HUMIDITY - (GM M23/GM D2Y AIM) :	IEST MODE	IOLE INTERMED. 1	INTERMED. ?	MILITANY MAK A9	EAMAUST MASS EMISSION INUICES :		INTERWED. 1 INTERWED. 2 NORMAL MILITARY MAK A3

\*\* AVEMAGE CONCENTRATION AND MASE EMISSION DATA ARE AREA-WEIGHTED.

FINISH FIA E FA	SCOTT ENVIRONMENTAL TECHNOLOGY 1VC.	NMENTAL 1	LECHNOLI	JUL 146.				SE1 1	SE1 1492-0#6-1275	72			KE	KEPOHI DATE 12/15/75	E 12/15	775
TEST   LOCATION   RELLY AFFE	USAF TU-BINE INDIAL E	ENGINE L	EMICSIUM ST PEPUP	NO LAVEN	בַּאַ							400	CONTRACT	1 1 2968	-12-C-	9
TEST CGLL NUMBER 1-5-   TEST CGL NUMBER 1-5	SCULT TEST .		41. ITPE	T L				Test DA		.75				NGINE 4	· NUMBE	
**STAKE FINISH STAMPLE LINE: 3 LPM   FUEL ANALYSIS: 5 STAKE   FINISH   FLOW RIE: 23 LPM   TAPE   194-6   TAPE   TA	CASINE TYPE ENGINE SEPIA TOTAL ENGINE PENFONNANCE	> MODEL : 441 TIME : TEST RESU	: J79-19 9165 986 P	S HHS.								2	TEST COCAL		A	4 00 H
FUEL MALE LIME:  SAMPLE LIME:  FLOW FATE: 31 PM  FLOW FLOW  FLOW FLOW  F	Ald FLUM WEA	SUZEMENT	METHUU	F 705	EASUME	٦							Š	OKE OPER	• • •	350
78.8 78.8 76.8 76.8 76.8 76.8 76.8 76.8	NORTHE 1521	MENTAL CL	OKULTION	••	- T	FINISH		S	AMPLE LINE FLOW RATE	: 23 LPM	<u>د</u> ن		SAMP	ANALYSIS		
FLUE FLUE FLOE FLOE EPR THC CD CO2 NOX NO NO2 SMU  # FLUE FLUE FLUE FLOE EPR THC CD CO2 NOX NO NO2 SMU    1168	TEST IN THE TANK THE	TEMP (DE TEMP (DE IC PRESSA HUMIDITY HUMIDITY AUMIDITY			***	74.6			LENGTHAND	75 FT.	•		BBBIO LILL	CARBUN HYDROGE SUCFUR RATIO-NA	30 ⊶	77
1158	lest Houg	TA PED TEN	14605	FUEL FLOW KINK				r 1	THC	C 3	205	NON We was	2 d	NOS PPR	1 Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	JKE
7578 5385 5385 5386 5387 5387 5388 5389 5389 5389 5389 5389 5389 5389			673	:	'	1		, ! !	113.27 54.86	282.38	9 10		2.59		23.82	# . #23 ;
3.385 3.385 3.385 3.29 3.29 3.29 3.29 3.29 3.29 3.29 3.29		7 7	9116						1.09	34.84	2.19	45.21	48.21	9. E . C	51.98	6.623,
32-324	SERVOR SERVICE	7 1	5850				9 7		3.24	35.72	1.72	33.87	57.68	24.4	59.88	B-823#
: CUZ NUX III III III III III III III III III I	MAL AS	2 2	1257	e.			144.		477.17	2756.39	7.72	73.65	45.79	27.86	29.85	0.023
THC CO COZ NOX NO NOZ NOZ NOZ NOZ NOZ NOZ NOZ NOZ NOZ	EXMAUST MASS	E4155108	N INDICE													
50. 1 3.64 2 4722 3349 H.82 14.42 4724 3582 W.95 3.38 20. 1 3.65 20.87 3486 2.16 5.81 4.53 28.7 23718 51.19 45.53 5.66 20. 2 3.48 5.49 8.84 1.18 22.3 16859 34.71 26.31 4.53 4.53 4.7 8.85 4.85 31.85 5.65 37.39 13. 3.84 3.84 3.84 3.84 3.84 3.84 3.84 3.				1	, 10 r.	# FUEC .	a.	*	DHJ.	1 '	200	* YON	2	202	į ·	
E., 7	10LE 1VTERMED: 1	<b>!</b> ¬	י או	1	3486		4.82		4.0		35#2		3.38		94.0	
J. 3.46 2.21 3134 8.64 7.74 8.85 8.49 19.5 27674 76.32 68.81 7.58 5.74 6.74 68.3 36.45 37.39 1	5	4 5			3133	0.47	7	3.00	• • • •		16859	34.71	26.31	0.4 0.4 0.0 0.0	2.15	
	AICITANT MAK AN	29.4	٢		3134	3 - 54	1.13	1.14	226.5	5	27674	76.32	61.45	37.39	13.16	

<b>.</b> 0 0	2	K U/173	.V > N SB ~	* / *		
REPORT DATE 12/15/75 USAF CONTRACT F296#1-75-C-##46	4. NUMBER	: KELLY AFM+TX NUMBER : 45 OPERATOR : CDC PPERVISUR : #H5 OPERATUR : PR OPERATUR : PR	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	5	23 67 64 23 8 64 23 8 64 23 8 61 38 8 81 38 8 81 38 8	201 86.45 30.08 30.08 13.09 12.78
OURT DATE F F296#1-	ENGINE 4.		FUEL ANALYSIS : 5AMPLE # : 1 TYPE : UP-4 MI.S CARBUN : WI.S CARBUN : WI.S SULFUM : H/C RATIO-ATM.: C/M RATIO-MASS:		3.73 2.14 3.52 2.46 4.81 27.51	NO2 1.44 1.53 1.73 3.71 5.61 8.37.78
CONTRAC	ษ	IES! LOCATION TEST CELL TEST CELL SCOTT SI INSTRUMENT	TO THE HISTORY	0 d T	24 34 34 34 34 34 34 34 34 34 34 34 34 34	NO 1.38 3.16 45.74 71.15
USAF		Ä		XON	7-14 7-62 46.93 38-49 65-27	# XUX   1
			€ 5 ° F	505 *	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	3397 4448 23576 2814S 97285
	•		: 23 LPM E : 24 UB 75 FT.	Por	255.49 116.43 38.75 37.41 23.88	00 844-15 10-17-18-51
SEI 1492-006-1275	: 5/25/15		SAMPLE LINE : FLUW RAIE : 23 LPM TEMPERATURE : 3#8 DEG.F LENSTH : 75 FT.		200.00 20	13.94 13.94 1.07 1.07 1.085 4.53.58
SEI 148	TEST DATE		A A	ارا بر	! !	* 125 4 5 5 5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1
				FIA	22222 2422 1742 174	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
			1388 1388 24.8 24.31 38	F/A ACI		7.5   5.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
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or luc.	r	45. 455. 1.00 ME	STAKI I112 84.8 36.89 38	1 JEL 1 JEL	1125 1455 17525 5378 5988 31992	. 1 2 2 2 2 2
ECHNUCU MISSION T REPUR	42. ITPE H	174-15 Rd1 13## m LIS: P.	(11.96) : (2.57) : (11.96) : (4.5) : (	1 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	1386 1386 1953 5734 18531 15442	0N 1VD1CE.5 : THC CU THC CO.39 3.25 24.14 4.24 2.85 4.35 1.99 4.13 3.84.0
MENTAL TI ENGINE E BINE TES		MUDEL: #:434 FIME: EST RESU	VIRDAWENIAL CONDITA- IIME (MIL-IIME): I AIX TEMP (DEG.F) SPHENIC PRESS (IN-H- IIVE HUMIDITY (*): I AIX HUMIDITY (*): I AIX HUMIDITY (*):		100 T 200 T	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
SCUTT ENVIRONMENTAL TECHNOLUCY INC. USAF TURBINE ENGINE EMISSIONS INVENT INDIVIDUAL EMSINE TEST REPURT	SCULL LEST NUMBER	ENGINE IYEE . MUDEL : J74-15 ENGINE SERIAL # : 434841 TOTAL ENGINE TIME : 1388 PMS- PEAFDRMANCE [ES] MESULIS : PASS AIM FLUM MEASUMEMENT METMUD : MUT ME	TEST ENVIRONMENTAL CONDITIONS TEST TIME (MIL.TIME): INLET ALM TEMP. (DEG.F): ATMOSPMENTC FRESS.(IN.MG): RELATIVE HUMIDITY (+): INLET ALM HUMIDITY (+): INLET ALM HUMIDITY (+):	TEST MOVE	IOLE INTERMED. I INTERMED. P NORMAL MICITARY MAK AS	### ### ##############################

\*\* AVEMAGE CONCENTRATION AND MASC EMISSION DATA ARE AREA-WEIGHTED.

REPURT DATE 12/15/75 USAF CONTRACT F29681-75-C-68465	ENGINE 4. NUMBER 5	IEST LOCATION : KELLY AFB+1A TEST CELL NUMHER : 45 TEST CELL OPERATON : CDC SCOTT SUPENVISUR : #H5 INSTRUMENT OPERATON : PH SMOKE OPERATON : UJU	FUEL ANALYSIS: SAMPLE #: 6 TYPE : JP-4 WI'S CAMBUN : 45.7 WI'S HYDROGEN : 14.2/ WI'S SULFUN : 8.82 H/C RATIO-ATM:: 2.88 C/H RATIO-AASS: 6.81	NUX NU NUZ SMUKE S
			اي. ق	CU2 3 3.444 11.983 11.9
10	7.5		: 23 LPM : 23 LPM eg : 340 DE 75 FT.	257.72 45.47 45.47 29.18 29.18 29.18 29.18 29.18 29.18 29.18
5E1 1492-1086-1275	\$1182175		SAMPLE LANE : FLOW RAIE : 23 LPM TEMPERATURE : 348 DEG.F LENGIM : 75 FT.	146.42 146.42 4.76 3.45 38.56 38.56 116.48 1.34 1.34
SE1 14	TEST DATE:		SA	E E E E E E E E E E E E E E E E E E E
				CALC CALC CALC CALC CALC CALC CALC CALC
			11211 1321 1332 2453 2453 35 35 35 35 35 35 35 35 35 35 35 35 3	F / A ACT ACT ACT ACT ACT ACT ACT ACT ACT A
7 40		ASURED		F.F.CO.R. # 7.18
I LVENT	J	SS **	START 1112 84.45 86.95 36 36	23.33.25 23.33.25 21.13.25
CHNULUS ISSIONS REPORT	43. TYPE C	1399 HKS. 1399 HKS. TS: PASS	DITTUNS 7 : . 1 : . 1 : 5 : 6 : AIR) :	ER ####################################
ENTAL TE NGINE EM INE TEST		400EL : 4348 1ME : 4348 5T RESUL	VIRUNMENTAL CUNDITIUN TIME (MIL.TIME): I AIM TEMP. (DEG.F): SPHEATE PRESS. (IN.MG): ITVE HUMADUITY (4): I AIM HUMIDITY (5): (5M HPB/GM DRY AIM):	# 155 10
SCUIT ENVIRONMENTAL TECHNULUCY INC. USAF TUPBINE ENGINE EMISSIONS INVENT INDIVIGUAL ENGINE IEST REPURT	SCULT TEST AUMBER	ENGINE TYPE & MUDEL: J79-15 ENGINE SERIAL #: 434841 TOTAL ENGINE TIME: 1384 MKS. PEMFURMANCE TEST RESULTS: PASS ALM FLUM MEASUMENT METHUD: NOT MEASUMED	TEST ENVIRONMENTAL CONDITIONS TEST TIME (MIL.TIME) : INLET AIM TEMP. (DEG.F) : ATMOSPHENC PRESS. (IN. HG): MELATIVE HUMIDITY (6) : INLET AIM HUMIDITY (7) : (6M HORBOTTY AIM) :	TEST MOVE

REPORT UATE 12/15/75 USAF CONTRACT F29681-75-C-8845	ENGINE 4. NUMBER 5	IESI LUCATION : KELLY AF9+TA TEST CELL OPERATUR : 45 TEST CELL OPERATUR : 45 SCUT SUPERVISOR : 445 INSTRUMENT OPERATUR : 200	FUEL ANALYSIS: SAMPLE #: 7 TYPE: JP-4 WI-& CARBUN: 55-81 WI-& MYURUGEN: 14-87 WI-& SULFUR: 4-83 H/C RATIO-MASS: 5-87	NUX NO NO2 SMUKE	28.42 25.92 2.58 3.12 77.83 78.89 6.94 5.34 18.16 19.16 19.18
SET 1492-0#6-1275	TEST DATE : 77 1775		SAMPLE LINE: FLOW MATE: 23 LPM TEMPERATURE: 348 DEG.F LENGIM: 75 FT.	EPH THC CO CO2  PPMC PDV \$	1.95 Inc. CO COd. Co
SCUTT ENVIRONMENTAL TECHNOLOGY 14C. USAF TURBINE ENGINE EMICSIONS 14VENTORY INDIVIDUAL ENGINE TEST REPORT	SCOTT TEST JUMBER 44. TYPE A	ENGINE TYPE & WOULL : J79-15 ENGINE SERIAL # : 42#966 TOTAL ENGINE TIME : 18## IMS. PERFURMANCE TEST MESULTS : MASS AIR FLUM MEASUMEMENT METHOU : 42T MEASUMED	TEST ENVIRUNMENTAL CUNDITIONS: START FINISH TEST TIME (MIL.TIME): 182# 2435 INLET AIR TEMP.(DEG.F): 75.4 76.4 AIMOSPHERIC PRESS.(IV.NG): 24.29 RELATIVE MIMIDITY (£): 56 63 INLET AIR HUMIDITY (£): 65 63 INLET AIR HUMIDITY (£): 8.4 IB 6.8 23	FUEL AIR F/A F/A F/A ACT CALC CALC CALC CALC CALC CALC CALC	### FUEL
SCUTT ENV USAF TURB INDIVIDUAL	SCUTT TES	EVGINE TYCENGINE SEITOTAL ENG PERFURMANC	TEST ENVI	TEST MOUE  10LE  MOMMAL  MILIAMY  MAX A3	EXHAUST MASS  10 E NORMAL MILITARY MAX A9

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\*\* AVERAGE CUNCENTRATION AND MASE EMISSION DATA ARE ANEA-WEIGHTED.

ENGINE T56-A7B

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-100	1364	AFG. TX 52	1			85.39 14.33	2.82		SMOKE			_					•	50x	6.55	6.33	0.34	37.8	62.8
E 01/	S. NUMBER	. KELLY A NUMBER : OPEPATOR JPERVISOR OPERATOR	•	•• 0	c	 z .			20		30.75	31.5	. 10.	4	39.63		•	50x	•	ė	•	2	•
REPORT DATE 81/22/76 USAF CONTRACT F29681-75-C-8845	ENGINE S			FUEL ANALYSIS	TYPE : JP-4	WT.8 CARRON : WT.8 HYDPOSEN	RATIO-ATM.		202 002		3.00	70.44	N .	2.78	7.48			204	1.65	E .	# B 4	1.56	1.93
CONTRAC	w	TEST LOCATION TEST CELL. TEST CELL. SCOTT SU INSTRUMENT	,	FUEL	TYPE	***	77		C a		3.79	66·II	15.69	מר. ממ	62.46			02	47.6	4.42	4.72	15.82	16.18
USAF		E .							¥ ¥ 0.2		12.23	14.44	11.11	2000	24.65		* 11	MOX	2.39	5.32	5.55	17,38	18.11
					9.6				C02		1.41	14.9	7.	2 36	2.4			700	1883	236#	2668	5821	Sk I 4
				200	30 445 :				00 a		150,27	25.41	24.47	74.75	27.62			<u>(</u>	2.4.6	5.1		7 0	4.
51 1 1492-086-1275	F : 7/15/75			SAMPLE LINE :	TEMPERATURE : 340 DES.F	LFNGTH : 144 FT.			THC			8.91	4.96	15.51	2.17			THC	1 4 - 1 7	1.14	4 C C C C C C C C C C C C C C C C C C C	7 0 0	92.9
71 1 15	TEST DATE :			8.4					۵ اوا									207	2.44	1.19	85.E	2 d	8
									CALC		500.	.003	* D 0 4		210.			2	1.19	5.83	5.53	2	51.1
				10000	143.4	# F 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	- 1 - 1 - 1		6 / A								FUEL -		3.85	7.42	4.52	a 0	6.17
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INC.		÷ v 2	17.		1334		8.344S	i.	F.O.		47.0	151	452	6151	1974		/ #	S	. ~	٣	e c	س ت	ו יי
LANDLUGY LASTONS REPORT	45. IYUE H	156-474 4293 7594 HRS 15 : PA		SNUTTIONS		. (AH.V.)	4 I K) :		ESHP Tr		183	2.2.6	57,	9766	3443	INOICES			! "			2.7A	
ENTAL TENGINE EM		400EL : 1		VIAL CON	AIL.TIME	PRESS.	T AIR HUMIDITY - (5M H22/GM DRY AIR) :	,	AATEO POWFR	٠	۳	r	¥ .	2	691	NCISSIA		THC	16.43	1.51	H.53		9
SCUTT ENVIRONMENTAL TECHNULUGY INC. USAF TURBINE ENGINE EMICAIONS INVENTURY INDIVIDUAL ENGINE TEST REPORT	SCOTT FEST NUMBER	EVGINE TYPE & MODEL : TSA-A74 EVGINE SERIAL # : AEI84993 TOTAL ENGINE TIME : 7594 MRS. PERFORMANCE TEST RESULTS : PASC	ALM FLOT MEASON	TEST ENVIRONMENTAL CONDITIONS :	TEST TIME (MIL.TIME)	INLET AIR TEMP. (DEG.F) : AIMUSPHERIC PRESS. (IN.HG)	INCET AIR HUMIDITY - (SM HOZZ/GM DRY AIR		TEST MODE A		LO GRNU-IOLE	HI GRYU.IOLE	MADACHGEA	251080	MILITARY	EXMAUST MASS FMISSION INDICES :			LO GAND. IOLE	HI GRAD. IDLE	APPROACH	CRU1SE NORMAL	MILITARY

ARE AMEN-MEIGHTED. DAT EMISCION CASA AND CONCENTRATION AVENAGE

ASUMED  ASUMED  ASUMED  SAMPLE  TEMPE  1 par  1 par	HEPORT DATE BIZZZZA USAF CONTRACT F29681-75-C-8846	7/17/75 ENGINE 5. NUMBER 2	TEST LOCATION : KFLLY AFB+TX  TEST CELL NUMBER : 52  TEST CELL OPERATOR : RM  SCOTT SUPERVISUR : 26T  INSTRUMENT OPERATOR : PR	SHOKE OPERATOR : DJO	FUEL ANALYSIS ;	RE : JAR OEG.F TYPE : JP-4	MI'S HYDROGEN : MI'S HYDROGEN : MI'S SULFUR :	C/H RATIO-MASS: 5.96	OWS SWO NO YON NO NOW NOW NOW NOW NOW NOW NOW NOW NO	167.84	29.45 4.57 13.32 18.99 2.32 27.38	25 51 1 72 38 29 36 79 1 58	25,73 2,31 57,92 54,98 3,41 39,88	23.84 2.47 63.73 60.2I		CO CO2 NOX NO NO2	19.4 1872 2.29 \$.62 1.67	6.5 2355 4.88 4.83 8.85	5.7 2654 5.89 4.37	4.7 CT 11.3C 14.40	1 2 5061 15 54 14 73
ASUMED  TO A STAND A S	St T 1492-086-1275				SAMPLE LINE FLOW RATE	TEMPERAT			(2) (14)							367 THC	2.7#	1.12		2	0
O				JAED	1713	, , , ,	£5.55	8-18-A	F/A ACT 0		3	2 2 3		. 416		BARR FUEL	3.78	24.6	5.94	1.00	1
NAPE TERM TERM TERM TERM TERM TERM TERM TER	SCOTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURATIVE ENGINE EMIKATONS INVENTURY INDIVIDUAL ENGINE TEST REPORT	46. IYDE 4	ENGINE TIPE 4, 40DEL: 156-479 ENGINE SEPIA: #: AEIB2369 TOTAL ENGINE TIPE: 2147 H95. PERFORMANCE TEST RESULTS: PASS	THON : NOT MEASE	TEST ENVINORMENTAL CONDITIONS : START			9.012	FJEL FLOW #ZHR	628					EXMAUSE MASS EMISSION INDICES :	*	31.54	H 52	6.73	5.6	

REPORT DATE 81/22/76 USAF CONTRACT F29681-75-C-8846	ENGINE 5. NUMBER 3	TEST LOCATION: KFLLY AF6.TX TEST CELL NUMMER: 52 TEST CELL OPERATOR: 78 SCOTT SUPERVISOK: 2GT INSTRUMENT OPERATOR: PR SMOKE OPERATOR: DJD	FUEL ANALYSIS: SAMPLE #: A TYPE: JP-4 MT.% CARRON: 85.39 WT.% HYOROGEN: 14.33 WT.% SULFUR: 8.82 H/C RATIO-AT4.: 2.82	NOX NO NO2 S40KE PPM PPM PPM SN M/A 9.42 4.33 5.23 8.823 8.823 8.923
			ار • در	CO2 4.71 1.32 1.64 1
	ď		23 LPW ፡ ንዳብ DEG.F ፣ FI.	C C C C C C C C C C C C C C C C C C C
SET 1492-086-1275	TE: 7/18/75		SAMPLE LINE: FLOW RATE: 23 L TEMPERATURE: 38 LENGTH: 134 FT.	14.3.14 14.3.3.14 14.3.3.14 13.3.14 13.3.14 13.3.14 14.3.14 14.4.2 15.4.2 16.4.2 17.4.4 18.4.4 18.4.4 19.
Sr'T 10	TEST DATE :		Σ.	2
				CALA CALA CALA CALA CALA CALA CALA CALA
			1478 1478 1479 1999 1999 1999 1999	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
TORY		ASURFU	F 80 8 F	FAIR #/HR 102 103 103 103 103 103 103 103 103 103 103
SY INC.	æ	45°.	5 : START   1316   86.8   54   54   8.8147	mor 14 c a 4 a 6
ECHNOLO MISSION T REPOR	47. TYDE H	156-174 91991 9755 HRS. LTS: PASC	ND1T10N 6.F) : (1N.HG) : (*) :	1837 1837 1837 1927 1921 1937 1938 1938 1938 1938 1938 1938 1938 1938
WENTAL TENGINE E		MCDEL: #: AE1 TIME: EST RESU	VIRONMENTAL CONDITION TIME (MIL-TIME): T AIN TEMP. (DEG.F) SPHENTC PRESS.(IN-H TIVE HUMIDITY (*): T AIN HUMIDITY - (GM H28/GM DRY AIR)	AAKED E BOWER 13 13 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15
SCOTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENT INDIVIDUAL ENGINE TEST REPORT	SCOTT TEST NUMBER	ENGINE TYPE & MCDEL : T56-474 ENGINE SERIA! # : AEIBIA91 TDTAL ENGINE TIME : 9755 HRS. PERFORMANCE TEST RESULTS : PASC A17 FLUM MEASUMEMENT METHON : NOT MEASURFU	TEST ENVIRONMENTAL CONDITIONS TEST TIME (MIL.TIME): INLET AIR TEMP.(DEG.F): ATMOSPHERIC PRESS.(IN.HG): RELATIVE HUMIDITY (*): INLET AIR HUMIDITY - (GM HOR/GM DRY AIR):	TEST MODE RATED ESHP POWER HP

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AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE AREA-WEIGHTED.

REPORT DATE 81/22/76 USAF CONTRACT F29681-75-C-8846	ENGINF 5. NUMBER 4	TEST LOCATION: KFLLY AFB.TX TEST CEL, NUMREP: 52 TEST CEL, OPERATOR: RM SCOTT SUPERVISOR: 26T INSTRUMENT OPERATOR: PR SMOKE OPERATOR: DJO	FUEL ANALYSIS; SAMPLE #: 8 TYPE: JP-4 WT-8 CARRON: 95-39 WT-8 HYDROGFN: 14-33 WT-8 SULFUR: 8-82 H/C RATIO-ATM:: 2-82 C/H RATIO-MASS: 5-96	NS MAY MAY	12.53 3.34 9.19 21.75 8.8238 15.23 13.82 2.21 27.25 8.8231 19.85 16.74 2.38 29.88 8.8231 45.84 85.83 4.46 39.75 8.8231 55.65 61.44 5.21 44.88 8.8231	NOX NO NO SOX NO
5FT 1492-D86-1275	TEST DATE : 7/22/75		SAMPLE LINE : FLOW RATE : 23 LPM TEMPERATURE : 388 DEG.F LENGTH : 148 FT.	C 2 C C	188.83 177.88 1.89 12.58 23.46 1.81 18.15 23.38 1.81 19.81 21.63 1.79 14.86 28.73 2.39 6.91 28.33 2.56	702
	11.		71415H 1158 20.09 20.09 34 8.8848	F/A F/A	1 2 2 2 2 2 2 2 1 1 1 2 2 2 2 2 2 2 1	1843# FDEL
NOLOGY 14C. SIONS 14VENTORY EPORT	48. IYDE H	6-474 19 35 HKS. : PASC HOD.: NOT MEASUREU	TIONS : START   1818   1818   1818   1819   1819   1819   1818	FJEL AIR ESHP FLOW FLOW HP #/HR #/HK	182 575 724 78 592 818 591 476 7139 1825	
SCOTT ENVIRONMENTAL TECHNOLOGY 14C. USAF TURBINE ENGINE EMÍSSIANS 14VENT 1401VIJUAL ENGINE TEST REPORT	SCOTT LEST WINNER 48.	ENGINE TYPE & MUDEL: TS6-A74 ENGINE SERIAL #: AE1#3319 TOTAL ENGINE TIME: 7745 HMS. PERFORMANCE TEST RESULTS: PASC	TEST ENVIRONMENTAL CONDITIONS TEST TIME (MIL.TIME): INCT AIM TEMP.(UEG.F): ATMUSPHEMIC PRESS.(IN.HG): RELATIVE HUMIDITY (%): IMLET AIR HUMIDITY (%): (5M M79/GM DRY AIR):	N TEST MODE RATED ES	10 GRNU-10LE 3 H1 GRNU-10LE 8 APPROACH 18 CRUISE 72 NORMAL 188	EXMAUST MASS FMISSION 1401CES

\*\* AVEHAGE CONCENTRATION 340 MASS EMISSION DATA ARE AREA-4EISHIED.

SS. START FINISH 1818 929.28 1818 929.28 1818 42.8 1818 42.8 1828 8.8888 1158 88888	REPORT DATE #1/22/76 USAF CONTRACT F296#1-75-C-##46	TEST DATE : 7/22/75 ENGINE S. NUMBER	TEST LOCATION : KELLY AF4+TX TEST CELL, NUMBER : 52 TEST CELL, OPERATOR : RM SCOTELL OPERATOR : ZGT SCOTENIS OPERATOR : PR INSTRUMENT OPERATOR : DJO SMOKE OPERATOR : DJO	SAMPLE LINE : FLOW RATE : 23 LPM	Son on Nox Sub Nos	184.57 177.44 1.8H 11.94 2.62 9.32 28.25 11.14 23.53 4.7B 15.31 12.94 2.37 26.8B 16.91 27.3R 3.15 76.36 78.64 5.72 43.5B 11.8I 26.8I 3.45 86.89 78.89 8.FI 45.25
SCOTT ENVIRONMENTAL USAF TURBINE ENGINE INOIVIDUAL ENGINE SCOTT TEST NUMBER ENGINE SERIA # : FOTAL ENGINE TIME TOTAL ENGINE TIME TOTAL ENGINE TIME TOTAL ENGINE TEST TIME (MIL. TEST TIME (MIL. TEST TIME (MIL. TEST TOUR MEASUREME)  TEST ENVIRONMENTAL TEST MOUE RELATIVE HUMIDI INLET AIR HUMIDI INL	SCOTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENTURY INDIVIDUAL ENGINE TEST REPORT	44. TYPE C	OT MEA	5 : START F1 1916 1 1916 1 1 1916 1 1 1 1 1 1 1 1 1	ESHP FLOW F/A HP ACT C	182 575 149 1825 1825 1948

\*\* AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE AREA-WEIGHTED.

REPORT DATE #1/22/76 USAF CONTRACT F29681-75-C-8846	ENGINE S. NUMBER S	TEST LOCATION: KFLLY AFB.TX TEST CELL NUMRER: 52 TEST CELL OPERATOR: RM SCOTT SUPERVISOR: 2GT INSTRUMENT OPERATOR: PH SMOKE OPERATOR: DJO	24 <b>9</b> 5 5 7 7 7	OWS Sound	1.38	NOX NO NOS SOX	#.74 1.3# 4.23 #.58 14.88 1.15 15.91 1.51
			ايد • و	C02	1.86 2.27 2.45	C02	1777 2244 5583 5929
	ιr		: 23 LPM ; 33 DFG.F ; 1 TT.	C 3	25. 44 25. 44 24. 32	င	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
555 1442-086-1275	TE: 7/24/75		SAMPLE LINE : FLOW PATE : TEMPERATURE LENSTH : 1	D M d d	154-27 18-98 18-98	H.	16.67
25.1 14	TEST DATE		35	2 2 41	! !	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	0. 20 E. 20 0. 20 E. 20 E. 20 E. 20 0. 20 E. 20 E. 20 E. 20 0. 20 E. 20 E. 20 E. 20 E. 20 E. 20 0. 20 E. 20
				FIA	00000 00000 00000	9	3. 3. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.
			FINISH 1428 20.01 44.0	F/A ACT		FUEL	8
ORY T		ASUMED		FLOW #/HK		/ IBPAR FUEL CO2 NOX	
SY INC.	A	7. M.E.	STAH 128 128 128 128 138	FJFL FLOW #/HR	585 726 1785 1895	#	7 7 7 7
ECHNOLO MISSION T REPOR	S# TYPE A	156-47H #3583 7929 HHS. ILTS: PASS	(3) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	1 1 T	143 241 2873 3289	SION INDICES :	
HENTAL TI		MODEL: TIME: SST RESUL	VIRONMENTAL CONDITION VIRONMENTAL CONDITION TIME (MIL.TIME): TAIN THP. (DEG.F.): SPHENT PRESS. (IN. HG TIVE HIMIDITY (F.): TAIN HUMIDITY (F.): TAIN HUMIDITY (F.):		~ ~ ~ ~ ~ ~	MISSION 1	17.71 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.5
SCOTT CAVINONHENTAL TECHNOLOSY INC. USAF TURBINE ENGINE EMISSIONS INVENT INDIVIDUAL ENGINE TEST REPORT	SCOTT LEST WIMHER	ENGINE TTPE & MODEL: 156-47H ENGINE SERIAN W: AEL#35#3 TOTAL ENGINE TIME: 7929 MMS. PERFORMANCE TEST MESULTS: PASA	TEST ENVIRONMENTAL CONDITIONS TEST TIME (MIL.TIME): INLET AIM TEMP. (DEG.F): ATHOSPHERIC PRESS.(IN.MG): PELATIVE HUMIDITY (#): INLET AIM HUMIDITY (#): (GM ADE/GM ORY AIM):		LO GANU. IOLE Al GRAU. IOLE NORMAL MILITARY	EXHAUST MASS EMISSION INDICES :	LO GRAD.IOLE HI GRAD.IDLE NORMAL MILITAMY

TYPE R   TEST DATE : 87 4/75   TEST DATE   TENDRE THE   TENDRE THE   TENDRE THE   TEST DATE   TENDRE THE   T	SCOTT TEST NIMMER SI- ENGINE TYPE & MODEL : TS ENGINE SERIAL # : AE1848												
FUEL FLOW FUEL CO. CO. CO. THE FEEL CO.	ENGINE TYPE & MODEL : TA ENGINE SERIAL # : AE1848 TOTAL ENGINE TIME : 02				TEST DATE	. 8/	2			Ü	ENGINF 5	5. NUMBER	¢
######################################	PERFORMANCE TEST RESULTS	6-674 68 45 HPS.							Ē.	SI LOCAT TEST C TEST CI SCOT	OCATION: KFLLY: 51 CELL NUMBER: 52 CELL OPERATOR 5COTT SUPERVISOR	A	× 3 + -
FUEL CUNDITIONS : START FINISH FIGE TOWN RATE : 31 LPM FINISH FIN	A14 FLUM MEASIGNEMENT MET.	26 34 1Ch : COH	SUREU							NS		ATOR : 530	10
TEMPERATURE   1325   1445	TEST ENVIRONMENTAL CONDI	••	7		SA					FUEL	FUEL ANALYSIS	•• 0	
FUESTION   1	TEST TIME (MIL.TIME)	1				TEMPERATURE		Era.F		TYPE		•	
######################################	INCET AIR LEMP (OEGOF ATMOSPHERIC PRESS (IN		20.19							2 AP			y 60
PATED ESHP FLOW FLOW FLOW FLOW FLOW FLOW FLOW FLOW	RELATIVE HIMIDITY (*)		19								SULFUR RATIO-AT		2
POWER HP FLOW FLOW FLOW FLOW FLOW FLOW FLOW FLOW	IN YOU MONGON AI	••	6.4179								RAT10-MASS:		ı Æ
FMISSION INDICES:    187	30 F 40				n 3	<u>(</u>	S	605	×	Ş	0	SHOWS	1
187   595   118   513   13.16   13.1	POWER					DMGG	Mcd	, af	Mdd	J. J.	1	2	
3 187 595 1496 157,45 1498 1118 1118 1118 1118 1118 1198 1198		-	1										
19 592 818 6 17.58 1 1	mα					100	75.41	2.63	13.16	5.13		21.68	A . # 231
72 2325 1495	e ec			180.		16.67	22.67	9.86	17.58	16.55	1.83		8.4231
THE 3244 1865 -011 71:58 24.96 2.15 54.72 5 18 189 3487 1965 -011 189 24.96 2.15 54.72 5 18 189 3487 1965 -011 189 24.96 2.15 54.72 5 18 189 3487 1965 -011 189 2.32 68.98 5 18 189 2.32 68.98 5 18 189 2.32 68.98 5 18 189 2.32 68.98 5 18 189 2.32 68.98 5 189 2.32 68.98 5 189 2.32 68.98 5 189 2.32 68.98 5 189 2.32 68.98 5 189 2.32 68.98 5 189 2.32 68.98 5 189 2.32 68.98 5 189 2.32 68.98 5 189 2.32 68.98 5 189 2.32 68.98 5 189 2.32 68.98 5 189 2.32 68.98 5 189 2.32 68.98 5 189 2.32 68.98 5 189 2.32 68.98 5 189 2.32 68.98 5 18.93 5 189 5 18.93 5 18.95 5 18.	72	-		r 82.		68.88	25.52	1.57	45.18	38.91	6.27		A.0231
AUST MASS FMISSION INDICES:  THC CO CU2 NOX 10 NO2 THC CO CO2 NOX 10 NO2 THC CO CO2 NOX 10 NOX 10 NOX THC CO CO2 NOX 10 NOX 1	981 AX					71.58 88.65	24.96	2.15	54.72 68.98	55.74	13.21	31.50 6	6.8231
GRND.IDLE 18-22 31-45 3834 3.54 1-63 1.93 18-64 18-64 1775 2-88 GRND.IDLE 7-89 8-79 3189 6-72 5-38 4-39 5-38 4-39 5-38 3119 9-34 3-48 1.38 7-42 4-8 4-8 4-8 4-8 4-8 4-8 4-8 4-8 4-8 4-8	EXHAUST MASS FMISSION IN												
GRND-IDLE 18-22 71-45 3#34 3.56 1-63 1-93 1#6-66 18-64 1775 2-#8 GRND-IDLE 18-22 71-45 3#34 3.56 1-63 1-93 1#6-66 18-64 1775 2-#8 GRND-IDLE 7-#9 8-79 31#4 6-72 5-34 8-39 5-3# 5-3 5-35 5-36 1SE 4-8 4-8 4-55 13-96 AAL 3-74 2-34 3119 9-82 3-48 1-3# 7-46 4-3 5817 18-31	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	/ #	Bang File		*	*							
GRND.IDLE 18.22 31.45 3834 3.56 1.63 1.93 18.66 18.4 1775 2.88 GRND.IDLE 7.89 8.79 31.89 8.79 31.89 6.72 5.23 8.39 5.38 5.3 2515 5.36 8.36 1.55 1.55 1.55 1.55 1.38 7.42 4.8 4656 13.96 4.3 2817 18.31 7.85 2.35 8.39 7.85 7.8 5.31			NON	2	405	THC	60	C02	×ON	02	N02	80x	
GRND-IDLE 7.49 8.79 3144 6.72 5.23 8.39 5.31 6.3 2232 4.84 ROACH 6.55 5.31 5.3 2515 5.36 5.3 155 5.36 5.3 5.39 7.42 4.8 4.656 13.96 1.38 7.42 4.8 4.656 13.96 MAL 3.78 2.33 3119 9.82 5.45 1.36 7.86 4.3 5817 18.31	7 101 TOL		!		1	16.66	18.4	1775	2.88	8.9S	1.13	0.23	
CH 6.cs 6.57 3185 6.62 5.23 8.39 5.38 5.3 2515 5.36 4.97 3.21 3115 9.34 5.84 1.38 7.42 4.8 4656 13.96 3.79 2.38 3119 9.82 5.45 1.36 7.86 4.7 5817 18.31	GRND.IDLE	, m			ri.	5.11	•	2232	4.84			62.8	
4.97 3.21 3115 9.34 5.84 1.38 7.42 4.8 4656 13.96 3.74 2.34 3119 9.82 5.45 1.36 7.86 4.3 \$817 18.31	· ·	3		5.23	6.39	8.38		2515	5.36	5.45	A.31	4.32	
3.74 2.34 3II9 9.82 5.45 1.36 7.86 4.3 \$817 18.31		e		3.00	1.30	7.42		4454	13.96	12.83	1.94	90.9	
		2.34 3II		10 to	1.36	1.86		5817	18.31	15.77	2.04	200	
m		m		28.		9.52	4.7	1214	10.6	17.30	3.04		

SET 1492-086-1275 B1/22/76 USAF CONTRACT F29681-75-C-8846	TEST DATE : 97 6/75 ENGINE S. NUMBER 7	TEST LOCATION : KELLY AFB+TX TEST CELL NUMBER : 52 TEST CELL OPERATOR : 52 5COTT SUPERVISOR : 2GT INSTRUMENT OPERATOR : FL SMOKE OPERATOR : 610	SAMPLE LINE : FUEL ANALYSIS : FLOW RATE : 23 LPW  FLOW RATE : 31 LPW  TEMPERATURE : 348 DEG.F  WT.S. CARRON : 85.39  WT.S. CARRON : 14.33  WT.S. SULFUR : 8.82  H/C RATIO-ATM.: 2.82  C/H RATIO-MASS: 5.96
SCUTT ENVIRONMENTAL TECHNOLOGY INC. USAF TUBBINE ENGINE EMICSIONS INVENTORY INDIVIDUAL ENGINE TEST REPORT	SCUTT TEST NUMBER 52. TYPE A	ENGINE TYPE & MODEL: TS6-A74 ENGINE SERIA #: AEIPS484 TOTAL ENGINE TIPE: 5411 HRS. PEPFORMANCE TFST RESULTS: PASS	ART FIVISH 918 1184 37.8 49.8 20.25 20.25 36 20.47

JKE 3	15 10 11 12 11 11 11 11 11 11 11 11 11 11 11
SN SMC	23.25 38.89 36.88 35.58
2 d	4.76
2 d	19.4
X Q Q	9.37 13.91 74.45 84.68
C02	1.89 8.67 2.53 2.74
O MO O	180.68 20.51 32.82 38.78
THC DP4C	231.17 54.82 119.99 183.13
3 2	
CALC	
FIA	1 1 1 1
FLOW	
FJEL FLOW	578 595 1932 2010
ESHP	18-2 116-6 116-6 118-7 13-54-1
PONED PONED	3 148 189 EMISSIO
TEST MODE	LO 54VO-10LE 3 1893 HI 54NU-10LE 8 1891 NOPHAL 10LE 148 3594 EXHAUST MASS EMISSION INDICES

\*\* AVEMAGE CONCENTRATION AND MASS EMISSION DATA APE AMEA-WEISSHED. 

7HC 23.34 18.78 5.37

LO GRNU-IDLE HI GANU-IOLE NORMAL MILITAMY

C 2 6 4 4

13.3# 13.3# 1444 18.21 3.58

SCUTT ENVIRONMENTAL TECHNOLUGY INC. USAF TURBINE ENGINE EMISSIONS INVENTORY INDIVIDUAL ENGINE TEST REPORT	MENTAL TECHENGINE EMICA	HOLDGY 1	NC.				SeT 14	SET 1492-DB6-1275	۲.		USAF	REPORT DATE #1/22/76 USAF CONTRACT F296#1-75-C-##46	PORT DAT	-75-C-	846
SCOTT LEST NUMBER		53. TYPE H					TEST DATE	E: 8/ 6/75	7.75			w	ENGINE 5	S. NUMBER	۲ ۲
EVGINE TYPE & MODEL: 156-474 ENGINE SERIAL #: AEI#S444 TOTAL ENGINE TIME: 5411 HRS. PERFORMANCE TEST RESULTS: PASCAIP FLUM MEAGIPEMENT METHUN: NOT MEA	MODEL: 19 #: AEIBS4 TIME: S4 EST RESULTS	11 HRS. 11 HRS. 1 PASC		SURED							# #	ST L TE TE INS		A	ZGT FL
TEST ENVIRONMENTAL CONDITIONS	ENTAL COND	: SNOIL	TOATA	1	#3151		ν.	SAMPLE LINE		-		FUEL	FUEL ANALYSIS	•• a	
TEST TIME	TEST TIME (MIL.TIME) :		1228	-	1354			TEMPERATURE : 34	RE : 3AH OFG.F	F 13 . F		TYPE	APPLA APPRON		85.30
ATMOSPHERT	ATMOSPHERIC PRESS (IN. HG)	. ( JH.)	29.27	000	29.75							38 3		••	14.33
INCET AIR HUMIDITY	TAIR HUMIDITY -		B.8141	6.9877	778							77	H/C RATIO-ATM.: C/H RATIO-MASS:		5.982
		ı		;											
TEST MODE	WATED ES	ESHP FL	F JEL	FLOW KAR	FIA	F. A. C.	۵ ک س	THC	000	C05	XON	000	V 0 0 0	SN SM	SMOKE*
	'														
LD GRNU. TOLE			57.6			. 885		564.93	_	1.86	15.08	3.85	11.22	18.25	B.823F
APPROACH	ΣŒ	241 542	895			2 2		79.74	28.2	2.65	27.90	19.81	24.5	38.75	8.8236
CAUISE			SIR			639.		95.77	26.56	1.96	56.14	92.10	46.4	33.00	8.6233
NORMAL		3531	998			• # I 3		118.37	26.91	2.67	81.48	76.53	4.55 4.15	28.58	8.8231
EXMAUST MASS FMISSION INDICES	FMISSION IN	•				•									
			,	14 18 F	ľ		•	•			H / HR			•	
	THC		ဒ				N.)2	THC		C02	XON.	02	N02	SOX	
LO GRAD. IDLE	25.31	32.28	3813	•	24	71.1	3.33	14.43	4.4.	1717	2.55	9.65	1.96	8.63	
HI GRNU.IDLE	11.65	6. AH	3491		19	6.13	I.6R	8.19		2148	5.29	4.26	1.83	8.28	
APPROACH	H. 4.B	5.24	3102		H 1	5.81	1.28	6.7		2481	5.61	4.65	4.96	B . 32	
CAUISE	5.71	2.77	3113		2.0	8.76	£ .	8.62		4761	14.58	13.23	1.28		
NOWAL	4.78	2.63 0.00	3117	6.0	91	4,44	وو و در در در در	7 7 7	e e	5814 6235	19.78	18.81	4 0	0 00	
411141	,,,	-	3112		2	0	•	•		0.00					
** AVEMAGE CONCENTRATION AND MASS EMI	NCENTRATION	AND MAS		SCION DATA		AREA-	ARE AREA-WEISHIFD.	·							

REPONT DATE 81/22/74 USAF CONTRACT F29681-75-C-8846	ENGINF 5. NUMSER 8	TEST LOCATION : KFLLY AFB.TX TEST CELL NUMBER : 52 TEST CELL OPERATOR : RM SCOTT SUPERVISOR : 261 TANGEN AND CONTROLLED : 261	SMOKE OPERATOR : JJO	FUEL ANALYSIS :			H/C RATIO-ATM.: 2.02 C/H RATIO-MASS: 5.96	
SFT 1492-D84-1275	TEST DATE : 8/ 9/75			SAMPLE LINE :	TEMPERATURE: 340 DEG.F. LFNGTH : 1-4 FT.			
SCOTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENTURY INDIVIDUAL ESSINE TEST REPORT	SCOTT 1851 .JMSEN 54. ITHE H	ENGINE TYPE 4 MODEL: ISA-A7H ENGINE SERTAL W: AELBITIS TOTAL ENGINE TIME: IMASI HRS. PERFORMANCE TEST RESULTS: PASC	ALR FLUM MEASUMEMENT METHUN : NOT MEASURED	TEST ENVIRONMENTAL CONDITIONS :		· ·	1910-0	F F F F F F F F F F F F F F F F F F F

	4															
1EST MODE	PATED				F /A	1/A	٦ م	THC	င္ပ	C02	NOX	0 2	20N	#S	OKE	
	POWER	đ.	*/HR	*/IK	ACT	CALC		D P M C	por	M	#dd	PPN	T dd	Z	W/A	
		•	٠	1		1	1 1 1 1									
LO GRAU. 10LE						900.		256.82	184.73	1.16	14.31	I • #5	13.26	34.88	8.9230	
HI GRAD. 10LE	20	241				+ 0 P .		180.42	29.53	H.83	16.83	11.78	5.45	13.75	# . P 2 3 1	
APPROACH	18	592				9000		A3.84	31.74	1,15	21.78	69.51	6.41	32.00	A. A231	
CRUISE	72	2325				110.		126.84	31.43	2,25	56.30	45.25	11.45	36.00	0.4231	
NORMAL		3264				416.		129.54	27.94	2.74	71.87	59.11	12.76	38.25	J.#231	
MILITAMY	691	3553				+1 p.		135.25	24.15	2.93	18.98	96.29	16.42	48.25	0.4230	
. Particular Course Port Course	0170111	A Initial														
TO THE PERSON AND ADDRESS OF THE PERSON AND																

			. # / 16.	- 7	: ,		*			* 11			
	THC	THC	C02	XC.	3	207	JHC	င်	C02	¥0N	0 Z	N02	SOX
				•									
LO GRAD. 10LE	24.18	74.85	3419		4.24	3.59	14.83	17.7	1751	2.25	6.17	2.08	6.23
HI GANU. IDLE	13.64	7.91	3885		65.4	1.97	9.16	r.	2246	69.7	3.28	1.41	6.53
ADDROACH	4.13	5.43	3182		17.1	1.69	6.67	4 ° 7	5244	5.88	3.6	I.38	B • 33
CRUISE	4.48	2.73	3111		5.5	1.68	9.63	1.7	4683	12.26	98.6	2.41	0.00
AMMON	5.37	2.42	3115		1.83	1.52	16.6	3.8	5779	15.86	13.05	2.85	9.74
AILITARY	5.24	1.98	3116		6.90	1.78	10.34	4°E	4154	17.33	13.81	3.52	9.79

<sup>\*\*</sup> AVENAGE CONCENTRATION AND MASS EMISSION DATA ARE AMEDANTED.

ENGINE TF39

REPURT DATE #1/22/76 USAF CONTRACT F296#1-75-C-##46	ENGINE S. NUMBER 1	TEST LOCATION: KELLY AFB-TX TEST CEL! NUMBER: 60 TFST CEL! OPERATOR: P SCOTT SUBERVISOR: WHS INSTRUMENT OPERATOR: FL SMOKE OPERATOR: DJO	FUEL ANALYSIS: SAMPLE #: 9 TYPE: JP-4 WT.& CARRON: 85.69 WT.& HYDROGFN: 14.42 WT.& SULFUR: 8.06 H/C RAIIO-AIM.: 2.02	NOX NO NO? * SMOKE*	13.96 0.55 13.41 1.93 0.0231 191.22 167.98 23.24 7.93 0.0231 333.67 246.13 47.54 7.36 0.0236 362.44 340.73 61.71 5.14 0.0236	NOX NO NO? SOX	2.72 8.11 2.62 1.13 151.64 133.21 18.43 8.98 317.26 272.86 45.28 12.21 352.34 292.35 59.99 12.71
			և	c02 *	3.54 3.54 12.29 3.54 11.29	505	3361 27983 38278 39852
	5		33 FT.	C 2	628.a7 15.71 17.19	C	1400 1000
551 1492-086-1275	TE : 4/24/75		SAMOLE LINE: FLOW RATE: 23 LPM TEMPERATURE: 34# DEG.F LFNGTH: 128 FT.	THC	357.72 2.51 2.97 2.62	OH.	P O C O C O C O C O C O C O C O C O C O
5.1	TEST DATE		v	a d tu		× 5.5	2.31 2.78 3.78
				F/A CALC	10000	3	14.45
			FIGISH 1439 1439 24.39 24.36	FIA		FUFI.	2.41 17.47 25.94 27.60
7401		SASUHED		FLON HA		COZ WOX	132
SY INC.	<	25.4 45.0 10.0 ±	5 : STAKT 1148 1148 126.83 72 72 8.8174	FJEL FLOW #/HR	1131 4916 12228 12725	12	í
ECHNOLOMISTON	55. IYNE A	1539 128 8 B LTS : P.	(%) : (%) : AIR) :	THRUST #	27.85g 34.625 34.254	SION INDICES:	1.4
ENTAL TINGENEENTES		MODEL: 1 : 441 1 HE: 5T RESU	VIRONWENTAL CON TIME (MIL.TIME T AIN TEMP.(DEG SPHENTC PRESS.( TIVE HIMIOITY T AIN HIMIOITY (GM HD4/GM DRY	A TED	75 47 178	NOISSIM	
SCOTT ENVIRONMENTAL TECHNOLOGY INC. USAF JUBBINE ENGINE EMISSIONS LUVENI INDIVIDUAL ENGINE TEST REPORT	SCOTT LEST AUMAEM	ENGINE TYPE & MODEL: IF39 ENGINE SEMIAL # : 441128 TOTAL ENGINE TIME: 8 MAS. PERFORMANCE FEST RESULTS: PASC. A12 FLUM MEASIMEMENT METHON: NOT MEASUMED	TEST ENVIRONMENTAL CONDITIONS TEST TIME (MIL.TIME): INLET AIR TEMP.(DEG.F): ATMOSPHENTC PRESS.(IN.HG): PELATIVE HIMIDITY (F): INLET AIR HUMIDITY (F): INLET AIR HUMIDITY (F):	TEST MODE	IDLE INTERMED. I NORMAL MILITARY	EXMAUST MASS FMISSION INDICES:	IDLE INTERMED. I NOWMAL MILITAMY

\*\* AVEMAGE CONCENTRATION AND MASS EMISSION DATA ARE AREA-WEIGHTFD.

REPORT DATE #1727774 USAF CONTRACT F295#1-75-C-##46	ENGINF 4. NUMSER 2	TEST LOCATION: KELLY AFB.TX TEST CELL, NUMBER: 69 TEST CELL OPERATOR: P SCOTT SUBSERVISOR: WHS	SMOKE OPERATOR : DJO	FUEL ANALYSIS: SAMPLE #: 1# TYPE: JP-4 WT.% CARRON: WT.% HYDROGEN: WT.% SULFUR: H/C RATIO-ATW:	C/H RATIO-MASS: 6.83	CO NOX NO NO2 * SMOKE*	5 14.95 8.62 14.33 8.77 2 221.14 189.78 31.36 5.85 5 323.26 298.72 32.53 3.93 9 379.67 356.25 23.43 4.85 1 398.88 355.41 34.67 4.14
51 1 1447-1186-1275	TEST DATE: 9/17/75			SAMPLE LINE: FLOW RAIF: 23 LPW TEMPERATURE: 340 DFG.F LFUGIM: 120 FT.		DHUC DPMC	16.34 18.31 15.52 13.59 4.56
SCUTT ENVINORMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMICSIONS INVENTURY INDIVIUTAL ENGINE TEST REPORT	SCUTT 1EST VIMAER SA. TYDE A	ENGINE TYPE & MODEL: FR39 ENGINE SERIA # : 441447 TOTAL ENGINE TIME : # # #45. PERFORMANCE TEST RESULTS : PASC	AIM FLUM MEASIFEMENT METHON : NOT MEASIFED	TEST ENVIRONMENTAL CONDITIONS: START FINISH TEST TIME (MIL.TIME): 1628 2421 INLET AIR TEMP. (DEG.F): 91.8 45.8 ATHUSPHENTC PRESS. (IN. HA): 29.86 72.44 PELATIVE JUMIDITY (#): 78	(6M H22/6M DRY AIR) : 4.9228 4.82;5		4ΕΩ- 1 75 2492π 9798 L 97 339ππ 11348 AMY 188 3724π 12515 OFF 184 3455μ 18632

\*\* AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE AREA-WELSHIFFD.

2.79 2.79 2.5.68 2.9.18 2.9.18

8-12 155-44 258-74 318-96

2.91 2.91 181.12 289.91 339.93

C02 3266 27582 35583 39272

14C 24.646 2.95 4.26 4.26

CO2 NJX NU CO2 AJ3 3138 27.16

CO h7.95 9.73 9.54 9.54

77.43 77.43 88.43 89.43

> IDLE INTERMED. 1 NOMMAL MILITAMY

REPORT DATE 81/22/76 USAF CONTRACT F29681-75-C-8846	ENGINE 6, NUMBER 3	TEST LOCATION: KFLLY AF6+TX TEST CEL! NUMBER: 68 TEST CEL! OPERATOR: P SCOTT SUPERATOR: FL INSTRUMENT OPERATOR: DJO SMOKE OPERATOR:	FUEL ANALYSIS: SAMPLE #: 11 TYPE: JP-4 WT-8 CARRON: 85-83 WT-8 HVPROGEN: 14-27 WT-5 SULFUR: 8-83 H/C RATIO-MASS: 6-81	NOX NO NO2 * SMOKE* PPH PPH SN W/A 22-62 1.22 21.48 23-64 24.44 486.58 351.58 54.92 395.57 371.46 24.11	4.84 8.22 3.82 8.51 197.79 169.18 28.61 5.41 389.56 336.95 52.63 7.42 393.95 52.63 7.62
			u. ¢	202 1.97 1.97 1.23 4.23	3365 3365 38797 44256
.5	7.5		: 23 LPW if : 38# DE 28 FT.	A 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	2 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
SET 1492-086-1275	7. 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		SAMPLE LING: FLOW MATE: 23 LPW TEMPERATURE: 38# DEG.F LENGTM: 12# FT.	798-08 9-74-4-78	7HC 21.85 2.85 1.57
SET	TEST DA		v.	ਕ ਰੂ ਜ਼	3.48 3.17 4.25 1.87
				CALC 	201.26 201.26
			F1V1SH 2013 73.4 20.41 71	4 / 4 / 4 / 4 / 4 / 4 / 4 / 4 / 4 / 4 /	
URY		ASURED		A P P P P P P P P P P P P P P P P P P P	18 444 136 136 136
OLY INC. NS INVENT	E A	8 HRS. : PASe Un : NJT ME	START 1927 1927 1929-32 68 68 1939-34	FJEL # / IR 1 - 26 1 - 26 1 - 28 1 -	* 1
TECHNUL EMICSIO ST REPO	57. TY-E A	: TF39 1169 nLTS : N	ONDITION ME): EG.F): (10.46 (*): (*): (*)	1HRUST 2224 28555 37655	10v 1vDIC
MENTAL ENGINE SINE TE		460EL # : 44 TIME : FST MESI	TIME (MIL-TIME): TAKE FEMP. (DEG.F) SPHENT, PHESS. (IN-MITTLE PHESS. (IN-MITTLE): TAKE HUMBILTY (#): TAKE HUMBILTY (#): TAKE HUMBILTY (#): TAKE HUMBILTY (M): TAKE HU	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1 19.46 19.46 19.46 19.48 6.31
SCOTT ENVIRONMENTAL TECHNULONY INC. USAF TURNINE ENGINE EMISSIONS INVENTURY INDIVIOUAL ENGINE TEST REPORT	SCUTT TEST + 144ER	ENGINE TYPE & WOUEL : TF39 ENGINE SEMIN : 441169 TOTAL ENGINE TIME : 8 MRS. PERFORMANCE TFST MESHLTS : PASC AIM MEASUMEMENT METHON : NOT MEASURED	TEST ERVIADNMENTAL CONDITIONS: TEST TIME (MIL.TIME): ANGENTAL AIR TEMP. (DEG.F): ATWOSPHERTC PRESS. (IN MG): WELATIA HE HUMIDITY (*): INLET AIR HUMIDITY (*): (GM ADROGN DRY AIR):	1651 MODE 1016 1016 1016 4049AL 41L11AMY	EXMAUST MASS FMISSION INDICES:  "

HEPONT UATE #1/22/76 USAF CONTHACT F29681-75-C-#846	ENGINE 6. NUMBER 4	TEST LUCATION: KFLLY AFB.fx TEST CELL NUMAEP: 68 TEST CELL OPERATOR: JF SCOTT SUPERVISOR: FL INSTRUMENT OPERATOR: 0JO SMOKE OPERATOR:	FUEL ANALYSIS :	IVPS TARBON : 35.63	NAMPOGEN : I	H/C RATIO-ATM.: 2.83 C/H RATIO-MASS: 5.93	NOX NO NOV * SMUKE	7 20.09 1.32 18.77	258.65 227.86	357.36 362.35 4I5.39 402.55		NOX NO NOS	3.69 8.24 3.45	378-48 345-11 25-29	361.73 356.79 488.19 395.57	
				الارم. ا			2005	1.97	3.58	4.21		COS	3461	38485	39646	•
	Ţ.			23 LPM 24 FT			C 3	76, 42	19.97	12.47		ού	1 L	4.4	7.0	
S-T 1492-086-1275	TEST DATE : 147 3/75		SAMPLE LINE	FLUW MAIR : 23 LPM TEMPERATURE : 240 DFG.F LFNGTH : 120 FT.			T D D D D D D D D D D D D D D D D D D D		79-61	A 34		F	33.65	2.64	3.45	,
S: T -1	TEST DA		· ·				3 3 14	-				CC 7	2.93		39	
							F / A	1 7	. el.p.	. 421		2	6-21	74.36	24.5	
				147174	74.57	711E-8	FIA					í	•	38.44	28.54 34.54	0.
<u>*</u>		URED	į		Λ.	S	F LOW					2	!			
INC. INVENTOR		NOT WEAL		2449 249	29.57	6.4169	FJEL FLOW TR	7.78	3.485	12675 12675 13185	••	1	1	<u> </u>		7
STONS SEPORT	SA. TYPE A	B HRS.	TIONS		: (SH-1	A 1 H ) :	1509+1	! !		30434 44194		S	1,	4.74 8.61		E.
AL TECH		EL : TF 441147 PESULT9	CONO	(DEG.	ESS. (1)	DITY -		1			S10N 1	THC	24.56	2.00	5.03	
DUMENT, E ENGIL	NUMBER	A AUDI E TIME TEST A	VAFNTAL	TEND A	ATC PR	T AIR HUMIDITY	KA TED		75	1991	S FWIS					
SCUTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMICSIONS INVENTURY INDIVIDUAL ENGINE TEST REPORT	SCUTT TEST NUMBER	ENGINE TYPE & MODEL: TF39 ENGINE SERIAL #: 441142 TOTAL ENGINE TIME: # HRS. PEMFORMANCE TEST RESULTS: PASC AIM FLUM MEASIMEMENT METHON: NJI MEASUNED	TEST ENVIRONMENTAL CONDITIONS	TEST TIME (MIL.TIME) :	ATMUSPHERIC PRESS (IN.HG)	INLET AIR HUMIDITY (GM H20/GM DRY	TEST MODE	0 101	INTERMED. 1	MILITARY TAKF-OFF	EXMAUST MASS FWISSION INDICES		IOLF	INTERMED. I	MILITARY	ANE - OF F

\*\* AVENAGE CONCENTRATION AND MASS EMISSION DATA APE AMEA-WEI HATCH.

- 69

ENGINE J75-P17

REPORT DATE 88/19/76 USAF CONTRACT F29681-75-C-8846	ENGINE 8. NUMBER 1	TES! LOCATION: TINKER AFB TEST CELL NUMBER: 9 TEST CELL OPERATOR: C SCOTT SUPERVISOR: 27 INSTRUMENT OPERATOR: PR SMOKE OPFRATOR: DO	S :	MT-8 CATED 15-83 WT-8 HYDROGEN 14-46 WT-8 SULFUR 1 6-88 H/C RATIO-AIM: 2-81	C/H RAT10-MASS: 5.96	NS MAG MAG	7.73 1.15 6.58 11.48 8.8238 42.85 31.61 11.25 46.58 8.8238 79.33 67.92 11.41 58.88 8.8238 181.86 92.13 9.73		NOX NO NO2 SOX 3.91 8.58 3.58 13.37 12.55 118.15 94.38 15.84 19.18 147.82 132.98 14.84 21.78
				•		205 *	8.94 2.16 2.83 3.88		CU2 4543 24562 37585 42523
	9		23 LPM	. 344 DEO		C M	330.97 39.86 23.62 19.98		CO 194.3 28.1 28.1 28.8
SFT 1492-D#8-8876	TE: 2/ 4/76		SAMPLE LINE : FLOW RATE : 23 LPM	LFNGTH : 188 FT.			484.46 9.17 6.88		85.43 3.33 5.21
SFT 14	TEST DATE :		15			ر م د	2.481		201 201 103 103
						FIA	2222 2222		200 200 200 200 200 200 200 200 200 200
			FINISH	34.8 34.8 64.9 79.49	6689		25 4 4 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5	FUEL	00X 2.48 6.49 9.14 18.83
200		.E				PLON R/HK	361257 568419 783541 888251	/ 1038# FUEL	2883 3129 3132
15 1 14C.	Í	-194 8 HRS. : PASS	S STARI		9.9353	FJEL FLOW */HX	1574 7851 12888	2	00 96-17 1-29
TECHNOLO	68. TYPE H	2336 8 1 JLTS : F	NO1110N	(\$) : (\$) :	. (AIR)	THRUST	924 11124 15149 17615	SION INDICES:	10
HENTAL PENGINE BOINE TES		MCDEL : 612 11ME : 613 EST RESU	ENTAL CC	C PRESS.	(GM H28/GM DMY AIR)	RATED POWER	5.0 188 189	EMISSION	14C 542 842.23
SCUTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENTURY INDIVIDUAL ENGINE TEST REPORT	SCOTT TEST NUMBER	ENGINE TYPE & MODEL : J75-194 ENGINE SERIAL # : 612336 TOTAL ENGINE TIME : 9 HMS. PERFORMANCE TEST RESULTS : PASS A12 FLOW MEASUREMENT METHOD : #711 MUDITA	TEST ENVIRONMENTAL CONDITIONS:	INLET AIR TEMP. (DEG.F): ATMOSPHERIC PRESS. (14. HG) RELATIVE HUMIDITY (*): INLET AIR HUMIDITY -	( F.M. H.)	15ST M09E	19LE 1NTERMED. 1 1NTERMED. 2	EXMAUST MASS EMISSION INDICES:	IOLE IVERMED. 1 INTERMED. 2 MILITARY

REPORT 0ATE 84/19/76 USAF CONTRACT F29681-75-C-8846	ENGINE A. NUMBER 2	TEST LOCATION: TINKER AFB TEST CELL NUMBER: 9 TEST CELL OPERATOR: 8 SCOTT SUPERVISOR: 2T INSTRUMENT OPERATOR: PR SMOKE OPERATOR: 00	FUEL ANALYSIS; SAMPLE #: 13 TYPE: 13 TYPE: 08-83 WT-% CARBON: 85-83 WT-% SULFUR: 8-88 HC RAIIO-ATM: 2-81 C/H RAIIO-MASS: 5-96	NOX NO NO2 SMOKE PPM SN W/A N/A 1.44 5.98 11.88 8.8231 77.71 63.81 14.78 51.88 8.8231 97.93 86.84 11.13 58.88 8.8231
SET 1492=0#3=#876	TEST DATE : 2/ 4/75		SAMPLE LINE : FLOW RATE : 23 LPM TEMPERATURE : 348 DEG.F LENGTH : 188 FT.	EPR THC CO CO2 1.861 261.74 314.51 8.87 2.234 7.65 25.86 2.31 2.595 6.65 25.86 2.79 2.769 4.12 22.12 3.47
TECHNULOGY INC. EMISSIONS INVENTORY EST REPORT	61. ТУРЕ H	ENGINE TYPE & MODEL: J75-194 Engine Sévial #: 612355 Total Engine Time: B MAS. Perforance Test Results: Fail Mouth	CONDITIONS: START FINISH 2228 2258 2258 2258 2258 2258 2258 225	FJEL FLOW F/A F/A F/A F/A #/HR #/HR #/HR ACT CALC #/HR 152# 295411 .085 .005 12427 3697 791781 .015 .014 175929 11788 778599 .017 .015
SCOTT ELLIPONMENTAL TECHNULGGY INC. USAF 1 1241NE ENGINE EMISSIONS INVENT INDIVIDUAL ENGINE TEST REPORT	SCOTT TEST ANAMER	ENGINE TYPE & MODEL: J75-194 ENGINE SEMIAL #: 612355 TOTAL EMGINE TIME: B MMS- PERFORMANCE TEST RESULTS: FAIL	TEST ENVIRONMENTAL CONDITIONS: TEST TIME (MIL.TIME): INLET AIR TEMP. (DEG.F): AT40SPHERIC PRESS. (IN.HG): RELATIVE HUMIDITY (*): INLET AIR HUMIDITY (*): (SM HOWIDITY -	1551 400E RATED POWER POWER 100E S INTERMED, 1 77 INTERMED, 2 99

			** / *			*	******			AH / #			•
	THC	CO CO	200	YON	OZ	2019	THC	ટ	C02	X0N	014	N02	×05
			1 1 1 1 1										
PLE	32.24	67.60	2741	7.54	4.51	S. A8	47.81	162.8	447.3	3.94	17.8		2.43
LIERTED. 1	4.38	3.21	3129	46.9	5.54	1.71	3.29	6.75	27214	68.54	45.68		13.98
NTERMED. ?	#.23	1.85	3132	9.12	1,39	1.73	2.78	21.6	36644	186.78	86,52		18.78
YIL I TARY		1.44	31 33	18.45	9.26	1.19	2.37	19.4	42262	149.94	124.92		21.56

EXHAUST 4455 EMISSION INDICES :

976	e 2	10 K 20 K	00			85.83	89.9	2.61	9	540KE*	0.8238	8.6231	0.8230					
E 88/19.	8. NUMBER	ER : 9 ATOR: 6 ISOR:	ATON :		13					NS	18.8	57.88	53.86		50x	2.65	15.64	19.34
REPORT DATE #8/19/76 ACT F296#1-75-C-##46	ENGINE 8	1 LOCATION : TINKER : TEST CELL NUMBER : TEST CELL OPERATOR 5COTT SUDERVISOR	SMUKE OPERATOR	FUEL ANALYSIS	SAMPLE # : 13	TYPE : JP-4	WI. & SULFUR :	HIC PATIO-ATM.	KA 1 1 0 - mA	20N	5.41	9.83	5.37		N02	7, 6	12.68	18.89
REPORT UATE #8/19/76 USAF CONTHACT F296#1-75-C-##46	נוֹ	TEST LOCATION : TINKER TEST CELL NUMBER : TEST CELL OPERATOR SACOTT SUPERVISOR SACOTT SUPERVISOR	SM	FUEL	SAMP	A T W	# # - L	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		0 1 0 1	1.49	1.00 1.00 1.00	98.18		CN	1 0	51.71	84.53
USAF		<u> </u>								X T		72.87	15.55		* XOX	50.	64.39	183.42
						<b>9</b> •6				203 *	96.6	2.38	3.68		200	7 < 6 7	29363	43454
	2				23 LPM	: 366 DE				00 Mdd	257.83	36.97	26.85		သ	0 0	5.60	25.1
SET 1492-DBA-1876	: 21 6/76			SAMPLE LINE :	FLOW RATE : 23 LPM	TEMPERATURE : 300 DEG.F LFNGTH : 100 FT.				THC PPMC		14.54	6.17		THC			5.11
SET 149	TEST DATE :			SAM	<u>(</u>	ند				EDR		2.574	2.771		207	34.0	1.35	1.56
										F/A CALC		. d ] ?	c11.		0۶.	19.7	5.51	6.69
					FINISH	1511	ر در در در در	0.00		F / A ACT		E =			FUEL	'	6.86	8.56
CHY			нПп				<b>V</b>			FLOW FLOW	34.95	788281	828537		14884	1 2 2 2 2		32
Y INC.	x	r. S.	9ELL+40	••	•		51.62	200	46.5	F JEL F 10W	1557	12497	13747	••		i		
CHNULUG 115510NS RFPOHT	62. TYPE H	175-194 73 # 4-25. TS : FAIL	: COM13	UITIONS						THRUST #	1377	12473	12751	INOICES	THC C:)	32.48	1	
FNTAL 1E NGINE EN		#ODFL : # : 6124 TME : ST PESUL	REMENT .	NTAL CON		EMP. (UEG	MIDITY (	TAIR HUFIDITE -	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	RATED T		70 FE	116	WISSIM	THE	1 0	27.3	4.47
SCOTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENTURY INDIVIDUAL ENGINE TEST REPORT	SCOTT TEST NUMBER	FUGINE TYPE & MODEL: 175-19" ENGINE SERIAL #: 612479 TOTAL ENGINE TIME: # H-55. PERFORMANCE TEST RESULTS: FAIL	ALS FLOW WEASHWEMENT METMOD : MELLHOUTH	TEST ENVIRONMENTAL CONDITIONS :		TEST TIME (MIL.TIME) : INLET AIR TEMP.(UEG.F) :	RELATIVE HUMIDITY (+) :	INCEL AIR HUFIOITI		TEST MODE	;	INTERMED. 1		EXMAUST MASS EMISSION INDICES :		101 6	INTERMED. 1	

9 9	-	2 1 2 d	00	E = 8 = 9	***	0.0228 0.0228 0.0231		
REPORT DATE #8/19/76 USAF CONTRACT F296#1-75-C-##46	9. NUMBER	۳	• ••	S: 13 1 85.83 EN: 14.48 114.: 2.81 ASS: 5.96	SHO	13.50	Š	2.51 12.74 16.49 19.88
PORT DAT 1 F29601	ENGINE 9	7	SHOKE OPER	ANALYSI LE 3P-4 CARBON MYDROG SULFUR RAIIO-A	N02	7.37 13.74 19.83 15.28	- 0	2.98 15.92 23.15 21.82
CONTRAC	w	TEST LOCATION FEST CELL TEST CELL SCOTT SC TNST DIMENT	HS	SEEL TARESTOCKES CONTRACTOR CONTR	2 d 0 d	1.61 37.35 56.85 83.42	9	43.28 71.98 114.73
USAF		3			PPC	8.98 51.18 74.88 98.78	H H	3.53 59.28 95.13 135.75
				. e e e e	505 *	1.18 2.25 2.63 2.95	600	4434 24934 32365 3885
	s.			23 LРМ : 3#8 DEG.F # FT.	020	548.43 37.86 24.33 21.80	Ş	23.5 23.2 19.8 17.5
SFT 1492-089-8876	TE: 2/11/76			SAMPLE LINE: FLOV RATE: 23 LPM TEMPERATURE: 388 LENGTH: 188 FT.	THC	757.89		185-17 3-64 1-71 1-71
SFT I	TEST DATE :			75	2 Q U	1.894 2.888 2.374 2.517	1 0	78.60
					FIA			20.47 24.40 24.40 44.40
				1416 1416 58.8 29.87 29.87	F/A ACT		FUEL	
URY			UI.		FLOW H/HK	236533 6456#9 716995	16864	
GY INC. S IVENT	r	7 45.	: אַנּראַס	5 : 5TARI 1244 53.8 : 24.73 : 33	FJEL FLOW #/HR	1571 7957 18314 12388		2.27 2.27 2.41 3.11 3.44 3.11 3.45 3.11 3.11 3.11 3.11 3.11 3.11 3.11 3.1
FECHNOLU FMISSION ST REPUR	65. IYPE H	175-21 1923 11 1 1 1 1	METHUD	(4) : (4) :	THRUST	958 14958 14893 15831	SION INDICE	6.94 ×2.27 ×2.27 × 2.27
MENTAL I		400EL : A : 418 TIME : EST MESU	INEMEN!	VIRDNWENTAL CONDITION TIME (WILLTIME): TAIR TEMP. (DEG.F) SPHENT CERESS.(IN-H) TIVE HUMIDITY (*): TAIR HUMIDITY (*): (SW H28/GM DRY AIR)	PONEN	2 2 3 3 6 6	EM15510N	45.55 40.57 40.17
SCOTT ENVIRONMENTAL TECHNÖLÖGY INC. USAF TJÆHINE ENGINE EMISSIONS INVENTORY INDIVIDUAL ENGINE TEST REPURT	SCOTT TEST NUMBER	ENGINE TYPE & MODEL : UTS-P17 ENGINE SEMIAL B: ALBORN TOTAL ENGINE TIPE : B HMS- PEWFORMANCE TEST WESULTS : PASS	ALM MEASUPEMENT METHOD : HELLMOUTH	TEST ENVIRONMENTAL CONDITIONS TEST TIME (MIL.TIME): INLET AIN TEMP. (DEG.F): ATMSPHENTC PRESS.(IN.HG): PELATIVE HUMIDITY (*): I'LET AIN HUMIDITY (*): (GM HOROGEN ONY AIN):	7EST MODE	DLE INTERMED. 1 INTERMED. 2 WILLIAMY	EXHAUST MASS EMISSION INDICES	101E

<b>.</b>	-	U <b>-</b> α ο	ന്കുന⊶ഗ	E	8 - 8 2 6 2 8 - 8 2 6 2 8 - 8 2 6 2 8 - 8 2 6 2	
REPORT UATE BS/19/76 USAF CUNTRACT F296A1-75-C-8846	9. NUMBER	VKER AFB ER: 9 CATOR: CISOR: ZI ATOR: PR ATOR: 00	85	AC.	13.47 9 44.98 6 47.32 8	50x 2.51 12.74 16.49
PORT UATE T F296#1-	ENGINE 9	T LOCATION : TINKER IEST CELL NUMBER : TEST CELL OPERATOR SCOTT SUPERVISOR SAONE OPERATOR SMOKE OPERATOR	FUEL ANALYSIS: SAMPLE: 13 TYPE: JP-4. WI-8. CARBON: WI-8. HYOROGEN: WI-8. SULFUR: WI-8. SULFUR: C/H RAIIO-MASS:	NO2 PPR	7.48 14.64 18.25 15.31	NO2 7.95 17.12 23.73 21.13
CUNTRAC	Ш	FEST LOCATION FEST CELL FEST CELL SCOTT SE INSTRUMENT SMOKE	NOTE STATE OF THE	2 d 0 d 1	1.53 36.45 54.29 81.78	NO NO 49-64 42-62 78-58
USAF		<u></u>		X ON Mdd	9.81 51.11 72.54 47.81	# / HR NOA 3.55 59.74 94.31
			بر ف نو	C02	2.02.0 2.03.0 2.03.0 2.03.0	CO2 4445 24934 32383
	ç		23 LPM : 344 0	O W	534.81 33.38 24.42 19.48	00 127.5 133.7 19.6
SFT 1492-088-8376	E: 2/11/76		SAMPLE LINE: FLOW RATE: 23 LPM FEMPERATURE: 388 OEG.F LENGTH: 188 FT.		741.95 8.41 4.46 3.32	1822-89 3.43 0.687 1.687
SFT 14	TEST DATE :		Š	9	10.94 2.48# 2.374 2.417	1.48 1.48 2.38
				FIA	. 4885 4111 4113	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
			FINISH 1416 58.8 28.87 26 26 36 36 36 36 36 36 36 36 36 36 36 36 36	P/A	127 E	FUEL
ORY		r z		ALU.	236533 645589 716995 764773	7 1666# COZ 283# 3132 1.33
Y INC. I AVENTO	ာ	117 H4S. P4SS - 351LMUL	STARF 1248 53.6 53.6 3.9 3.9 8.6729	FJEL FLOW	1571 7967 18314 12388	ES: (19 COZ
ECHNULUG MISSIONS TREPORT	66. TYPE C	375-417 928 8 HR LTS: PA	(4): (4): (4): (1):	149051	958 14895 14893 16831	510N INDIEES:
MENTAL T ENGINE E GINE TËS		400EL: 4:614 71ME: EST AFSU	VIRONMENTAL CUNDITINITIME (MIL.TIME): T AIR TEMP. (DEG.F) SPHERIC PRESS.(IN.H TIVE HUMIDITY (*): T AIR HUMIDITY (*): T AIR HUMIDITY (*):		1 2 2 8 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	1 HC
SCOTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENT INDIVIOUAL ENGINE TEST REPORT	SCOTT TEST NUMBER	ENGINE TYPE : "ODEL: 175-P17 ENGINE SERIAL #: 61892# TOTAL ENGINE TIME: # HRS. PERFORMANCE TEST RESULTS: PASS ATP FLOW MEASUREMENT METHOD: JELLMOUTH	TEST ENVIRONMENTAL CUNDITIONS TEST TIME (MIL.TIME): INLET AIR TEMP. (DEG.F): ATWOSPHENIC PRESS.(IN.HG): RELATIVE HUMIDITY (*): INLET AIR HUMIDITY (*): (SM HPUMIDITY -):	TEST MODE	IDLE INTERMEO. I INTERMED. 2 MILITARY	EXMAUST MASS EMISSION INDICES  THC CO THE CO THC CO THE CO

REPORT DATE #8/19/76 USAF CONTRACT F29681-75-C-8846	ENGINE 9. NUMBER 2	TEST LOCATION: TINKEW AFB TEST CELL NUMBER: 9 TEST CELL OPERATOR: C SCOTT SUPERVISOR: ZT INSTRUMENT OPERATOR: PR SMOKE OPERATOR: DO	FUEL ANALYSIS: SAMPLE #: 14 TYPE : JP-4 WT.% CARBON : B5.68 WT.% HYDROGEN : 14.43 WT.% SULFUR : 0.07 H/C RATIO-MASS: 5.94	PM PPH PPH SN W/A  -36 2.77 6.59 10.50 0.0231  -36 2.77 7.45 53.25 0.0231  -28 181.47 12.91 53.59 0.0231  -51 180.43 35.00 24.33 9.8231  / HR
3			u. •	CO2 NOX
<b>C</b>	16		4PLE LINE : FLOW RAIE : 23 LPM FEMPERATURE : 30% DEG.F LENGTH : 100 FT.	CO C
SET 1492-083-8876	TE: 2/22/16		SAMPLE LINE: SALPM FELOW RATE: 23 LPM TEMPEATURE: 305 LENSTH: 189 FT.	11. 12. 12. 12. 12. 12. 12. 12. 12. 12.
557	TEST DATE :		vî	# 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
				CF/A CALCA CACA
			FINISH 1548 61.8 29.92 14	10 1 0 1 C 1 C 1 C 1 C 1 C 1 C 1 C 1 C 1
1087		H100		Alk FEON A A A A A A A A A A A A A A A A A A A
GY INC.	⋖	-P17 : P155 : P155	STAR 1988 39.9 5.9 6.9 6.9	10111111111111111111111111111111111111
ECHNOLO MISSION F REPOR	78. TYPE A	175-21 829 7 : 21J	6.F) : (6.F) : (7)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
MENTAL F ENGINE E		MOUEL : 4 : 618 71ME : 55T PFSU	VIRONMENTAL CUN TIME (HIL-TIME 7 AIR TEMP-(DEG SPHERIC PRESS-( TIVE HUMIDITY CAM HOWIDITY (CM HORZGM BRY	204 ED THE HOLD THE H
SCOTT ENVIRONMENTAL FECHNOLOGY INC. USAF TURAINE ENGINE EMISSIONS INVENT INDIVIDUAL ENGINE TEST REPORT	SCULL LEST WIMHER	EVAINE TIPE & MODEL: JYS-P17 EVAINE SEMIAL #: KINB29 TOTAL ENGINE TIME: B MRS. PEMFORMANCE TEST MFSULIS: PASS AIP FLOW MEASIMEMENT METHOD: MELLMOUTH	TEST SUVINDAMENTAL CUNDITIONS TEST TIME (HIL-TIME): IMLET AIN TEMP.(DEG.F): ATMOSPHERIC PRESS.(IN.HG) PELATIVE MUMIDITY (*): IMLET AIM HUMIDITY (*): (5M HP2KGM BPY AIM):	TEST 400E AATED THRUST  10LE  AATED THRUST  10LE  AATED THRUST  AATA AAB  ECHAUST WASS EWISSION INDICES  THC  THC  THC  THC  THC  THC  THC  TH
	_	-		

REPORT DATE #8/19/76 USAF CONTRACT F29681-75-C-8846 ENGINE 9. NUMBER 2	TEST LOCATION: TINKEW AFB  TEST CELL NUMBER: 9  TEST CELL OPERATOR: C SCOTT SUPERVISUR: ZT INSTRUMENT OPERATOR: PR SMOKE OPERATOR: DO	FUEL ANALYSIS: SAMPLE #: 14 TYPE: JP-4 WI.& TAPBOON: B5.68 WI.& HYPROGEN: 14.43 WI.& SULFUR: 8.87 H/C RATIO-NASS: 5.94	NOX NO NO2 * SMOKE NO NO2 PPH SN W/A NO NO2 NO	
SFT 1492-D88-8876 TEST DATE: 2/22/76		SAMPLE LINE: FLOW RATE: 23 LPM TEMPERATURE: 388 DEG.F LENGTH: 188 FT.	EALC CALC CO CO CO CALC CALC PPMC PPMC PPM K K K K K K K K K K K K K K K K K K	18 2.25 113.54 1.35 1.35 1.35 1.35 1.35 1.35 1.35 1.35
SCOTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENTURY INDIVIDUAL ENGINE FEST REPORT SCOTT TEST NUMBER 71. TYPE A	ENGINE TYPE & MODEL: J75-P17 ENGINE SERIAL #: ALUR29 TOTAL ENSINE TIME: PERFORMANCE TEST RESULTS: PASS ALT FLOW MEASUREMENT METHOD: MELLWUSTM	TEST ENVIRONMENTAL CONDITIONS: START FINISH TEST TIME (MILLITHE): 1740 1818 INLET AIR TEMP, (DES,F): 64.8 55.8 ATMOSPHERIC PRESS (IN.HG): 24.91 24.92 RELATIVE HUMIDITY (4): 15 14 INLET AIR HUMIDITY (4): 4.8817 4.8417	FUEL AIN FIA FIA FIA FIA FIA FIA FIA FIA FIA POWER # # #/HR #/HR #/HR ACT CALC #/HR #/HR ACT CALC #/HR #/HR #/HR ACT CALC #/HR #/HR #/HR #/HR #/HR #/HR #/HR #/HR	MASS EMISSION INDICES:

\*\* AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE AREA-WEIGHTED.

ENGINE TF33-P3

	SCOTT ENVIRONMENTAL TECHNOLOGY 1NC. USAF TURBINE ENGINE EMISSIONS INVENTORY INDIVIDUAL ENGINE TEST REPORT	DAMENTAL E ENGINE ENGINE TE	TECHNOLO EMISSION ST REPOR	SY INC.	IORY			SET 1-	SET 1492-D88-8876	92		USAI	REPORT OATE #8/18/76 USAF CONTRACT F296#1-75-C-##46	REPORT DATE #8/18/76 ACT F296#1-75-C-##46	TE 88/18 I-75-C-6	776	
	SCOTT TEST NUMBER		59. TYPE 1	r				TEST DATE :	TE: 2/ 3/76	91/			Ī	ENGINE 7. NUMBER	7. NUMBE	η 1	
	ENGINE TYPE & MODEL: TF33-P3 ENGINE SERIAL #: 643295 TOTAL ENGINE TIME: ## HMS. PERFORMANCE TEST RESULTS: PASS	\$ MODEL   64   1   64   1   1   1   1   1   1   1   1   1	: TF33-P 3295 ULTS : P.	HKS.								=	TEST LOCATION: TINKER AFB TEST CELL NUMBER: 9 TEST CELL OPERATOR: SCOTT SUPERVISOR: INSTRUMENT OPERATOR:	T LOCATION : TINKER : TEST CELL NUMBER : TEST CELL OPERATOR SCOTT SUPERVISOR INSTRUMENT OPERATOR	INKER AF BER: 9 RATOR: VISOR:	£ 7 € 2 € 2 € 2 € 2 € 2 € 2 € 2 € 2 € 2 €	
	AIR FLOW MEASUREMENT METHOD : MELLMOUTH	SOREMENT	METHOD	. 85LLWG	F100								ī	HOKE OPE	RATOR :	00	
	TEST ENVIRONMENTAL CUNDITIONS :	MENTAL C	UNDITION	•		FINISH		S	SAMPLE LINE : FLOW RATE : 23 LPM	. 23 LPM			FUEL	FUEL ANALYSIS : SAMPLE # : I3	S :		
	TEST TIME	EST TIME (MIL.TIME)	ME) :	1253	_	1580			TEMPERATU	TEMPERATURE : 348 DEG.F	EG.F		TYPE	TYPE : JP-4			
	INLET AIM TEMP. (DEG.F) : ATMOSPHEKIC PRESS. (IN.HG)	INLET AIM TEMP. (DEG.F.) ATMOSPHFMIC PRESS. (IN.	. (IN. HG)	55.8		28.35			LENGTH : INB FT.	198 7			3 3	WITH CARBON :	••	85.83	
	RELATIVE HUMIDITY (*)	RELATIVE HUMIDITY (*	€,			28							3	WT. & SULFUR		8	
	H WS)	(GM H28/GM DRY AIR)	Y AIR) :	8.432	2	8.3826							25	C/H RATIO-MASS:		5.96	
	TEST MODE	RATED	THRUST	F JEL FLOW	FLOW	FIA	FIA	E P R	F 0	0 3	c02 *	× M	0 0	0 0 0 0 0 0	ž S	SHOKE	
											.						
70	10LE INTERMED. 1	5 2	822	988 962	125588	188.	- BB-	1.424	1584.88	625.48	1.19	19.45	1.98	5.35	18.66	F-1228	
	INTERMED. 2	78	12833	5791	5323#7	. 011	. 619	1.518	7.38	27.93	2.84	46.87	34.38	12.57	54.8	6.6231	
		95	15817	7213	591881	.#12	. 611	I.681	5.35	18.89	2.32	65.77	48.42	17.35	54.51	6.8231	
	TAKE-JFF	5.81	1/3/6	1888	9138/6	. MI3	• 613	I.782	3.57	16.65	2.57	81.88	98.89	58.94	54.5	6.6231	
	EXHAUST MASS EMISSION INDICES :	EMISSION	N INDIEE	. 5													

SOX 1.42 7.93 9.26 11.53

1002 1016 11068 11068 17066 21057

NO NO 22.68 31.86 49.38

1.58 33.16 43.54 66.96

202 2348 15514 18126 22593 25593

78 19 19 11 11 14

THC 113.92 4.73 2.39 1.98 1.28

NOS 1.24 2.11 2.13 2.45 2.45 5.55

NO 8 64 4 64 5 57 7 6 58 7 7 7 6

CO2 NOX 2644 I.68 3134 7.55 3132 9.24 3133 18.43

88.45 3.98 2.73 1.62

178.29 178.29 18.95 18.26

> IOLE INTERMEO. 1 INTERMED. 2 MILITARY TAKE-2FF

			* * *	6236 6236 6236 6236	
18/76	87.40 0.44 0.44	85.83 14.4 2.4 5.46	SHOKE		20.19 20.19 20.19 20.19
E #8/	I TINKER AFB NUMBER: 9 OPERATOR: OPERATOR: OPERATOR:	S :: 13 13 EN :: A S S ::	NS.	13.11 53.11 51.11 51.11	,
	* ** 5 9 9 9 9 9	INALYST  CARBON  HYGROG  SULFUR  ATTO-M	N02	12.28 15.32 16.86 18.#3	000 000 000 000 000 000 000 000 000 00
CONTRAC	TEST LOCATION TEST CELL TEST CELL SCOTT SI INSTRUMENT SMOKE	FUEL SAMPL TATOR TATOR CCH	0 d	3.15 25.63 41.86 55.18	NO B 69 21 39 39 69 55 57
USAF	31		X M d	7-44 37-91 57-18 72-84 78-48	NUX NUX 1064 31.664 34.61
		الآ 5 • ٣	205	1.86 1.86 2.28 2.43 2.52	2424 14851 19959 24661
	c	23 LPM : 388 DEG.F 18 FT.	CO b b c	543.54 34.42 22.15 19.63	00 00 17 17 17 17 17 17 17 17 17 17 17 17 17
<b>₽</b> 0-2		SAMPLE LINE : FLOW RATE : 23 L TEMPERATURE : 38 LENGTH : 108 FT.		137-12 137-12 13-25 17-55 8-8-8	7H 7H 7H 7H 7H 7H 7H 7H 7H 7H 7H 7H 7H 7
SET 14	IESI DAIE	8	a a u	1.926 1.392 1.585 1.787	NOS 11-15-15-15-15-15-15-15-15-15-15-15-15-1
			F/A CALC	22222	S 20 20 20 20 20 20 20 20 20 20 20 20 20
		71 N S S S S S S S S S S S S S S S S S S	F/A ACT	20000	FUEL
÷	Ī		FLOW */HK	125389 443126 552858 596947 689818	# ±
INC.	70,400	START 1838 67.8 28.52 45 45	FJEL FLOW */HR	886 4753 5373 7474	27 CO 31 31 31 31 31 31 31
JUGY TONS 1	3-P3 3-P3 : PASS	••		1	CO CO 32.59
TECHNICE EN 155	63. TYPE B : TF33-P3 :2636 6 HHS SULTS : PAS	CONDIT DEG.F) 5.(1N.) 7 (*) 77 -	THRUST	8559 14278 15618 15618	S10N IND 1 HC 1 HC 1 1 1 4 6 9 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
FENTAL ENGINE GINE TE	MODEL #:64 FIME: EST RES	VIRONMENIAL CONDITI TIME (MIL.TIME): TAIR TEMP.(DEG.F) SPHERIC PRESS.(IN.H TIVE HUMIDITY (+): T AIN HUMIDITY (SM HOMIDITY	RATED POWER	5 54 36 95 1 <b>83</b>	PMISS10
SCOTT ENVIPONMENTAL TECHNOLOGY INC. USAF TUPBINE ENGINE EMISSIONS INVENTURY INDIVIDUAL ENGINE TEST REPORT	SCOIT TEST JUMHER 53. TYPE B ENGINE TYPE & MODEL : TF33-P3 ENGINE SERIAL # : 642636 TOTAL ENGINE TIME : PERFORMANCE TEST RESULTS : PASS AIR FLOW MEASUMEMENT METHOD : HELLMOUTH	TEST ENVIRONMENTAL CONDITIONS TEST TIME (MIL.TIME): INLET AIR TEMP.(UEG.F): ATMOSPHERIC PRESS.(IN.HG): PELATIVE HUMIDITY (+): INLET AIR HUMIDITY - (6H M?@/GM DRY AIR):	TEST MODE	IDLE INTERMED. 1 INTERMED. 2 MILITARY TAKE-OFF	EXMAUST MASS EMISSION INDICES

25.25.25.25.25.25.25.25.25.25.25.25.25.2	INS 1 VENTON  FE C  PRASS  PRASS  START  1 ASTART  1 ASTART  1 ASTART  455  455	<u> </u>	F1N1SH Crear		SAMPLE SAMPLE FLOOTEN	ST DATE: 2/10/76 SAMPLE LINE: 23 LPM FENDERATURE: 398 (LENGTH: 18# FT.	E: 2/18/76  MPLE LINE: 23 LPM FLOW RATE: 23 LPM TEMPERATURE: 388 0EG.F  LENGTH: 188 FT.	ا ا ا	USA T	ENGINE 7. NUMBER TEST LOCATION: TINKER AFB TEST CELL OPERATOR: 9 TEST CELL OPERATOR: 2T SCOTT SUPERATOR: PR SMOKE OPERATOR: PR SMOKE OPERATOR: PR SMOKE OPERATOR: DO FUEL ANALYSIS: SAMPLE #: 13 TYPE: JP-4 WT-8 SULFUR: 14-49	ENGINE 7. NUL ENGINE 7. NUL T LOCATION : TINKER TEST CELL NUMBER : TEST CELL OPERATOR SCOTT SUPERVISOR INSTRUMENT OPERATOR SMOKE OPERATOR SMOKE OPERATOR SMOKE OPERATOR SMOKE OPERATOR TYPE : JP-4 WT.% CARBON : WT.% SULFUR :	ACT F29681-75-C-8846 ENGINE 7. NUMBER ATION: TINKER AFB CELL NUMBER: 9 CELL OPERATOR: 9 OTT SUPERVISOR: 2T UMENT OPERATOR: PR SMOKE OPERATOR: PR SMOKE OPERATOR: DO L ANALYSIS: MPLE #: 13 PE: JP-4 SW CARBON: 14-48 SW SULFUR: 8-88	AFB 2 2 46 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	
R) : WST *** *** *** *** *** *** *** *** *** *	478 747 747	A1R #/HR #/HR 1263# 44312 55285 59694 68981	8 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 -	0.000 0.000	10.3924 10.3924 10.3924 10.3924 10.3935	1166-62 1186-62 113-12-11-92 13-12-11-92	CO PPM S48.24 338.24 338.24 328.32 28.32	C02 * * 1 - 14 1 - 16 2 - 19 2 - 42 2 - 52	NOX PPM 7.48 37.46 56.43 71.94	NO PPM 3.33 24.69 54.69 58.69	H/C RATIO-ATM:: C/H RATIO-MASS: NO2 * NO2 * H PPM S 4-15 12 4-1 15.82 52 4-1 15.82 52 4-1 15.82 52 4-1 15.82 52 4-1 15.82 52 4-1 15.82 52 4-1 15.82 52 4-1 15.82 52 4-1 15.82 52 4-1 15.82 52 4-1 15.82 52 4-1 15.82 52 4-1 15.82 52 4-1 15.82 52 4-1 15.83 51	ASS: SASS: S	SS: S.96 SS: S.96 SN W/A SN W/	

\*\* AVERASE CONCENTRATION AND MASS EMISSION DATA ARE AREA-WEIGHTED.

SOX 1.42 7.59 10.19 11.45

NO2 NO2 16.92 14.29 17.65

NO NO Re-74 39.48 SS-16

100x 100x 1005 31019 53069 72082 86016

C02 2429 14856 19951 23487 24661

85.25 3.82 3.95 2.84 2.68

# / 1888# FUEL CO2 NOX 2742 1.8H 3128 6.57 3131 8.45 3132 9.74

C0 82.52 3.83 2.83 1.66

96 THC 96.21 8.38 8.33

> 1DLE INTERWEO. 1 INTERWED. 2 MILITARY TAKE-OFF

76	9	2 C 2 C 0 0 0	952738 942738	KE	236 1236 1236 1231 1231	
REPORT DATE #8/18/76 USAF CONTRACT F29681-75-C-8846	7. NUMBER	A	14 14 1 : 85.68 1 : 8-43 17 : 2-82 145Ss : 5-94	SN S	18.51 60.51 61.51 61.61	SOX 1-24 7-29 9-89 10-37
PORT DAT	ENGINE 7	<b>-</b>	NALYSI : JP-4 : CARBON HYDROG SULFUR ATIO-A	NO2 PPM	6.86 13.17 13.87 15.59	NO2 1.42 11.68 13.58 16.89
RE CONTRAC	W	TEST LOCATION TEST CELL TEST CELL SCOTT SU INSTRUMENT SMOKE	NUMBERS OF THE STATE OF THE STA	NO Md Md Md	1.33 26.89 38.72 49.88	NO #31 23.15 37.92 58.58
USAF		1		XOX PPM	7.39 39.26 52.59 64.59 71.21	NUX NUX 1.73 34.83 51.51 66.67 74.84
			E 6 • F	c02	1.86 1.92 2.17 2.35 2.43	2371 2371 16293 28329 23281 24428
	£		23 LPM : 380 DEG.F # FI.	000	534.88 36.79 25.65 22.11	76.4 19.4 13.9
SFT 1492-D89-8876	IE: 2/21/75		SAMPLE LINE: S3 L FLOW RATE: 23 L TEMPERATURE: 38 LENSTH: 188 FT.		1276.34 18.18 13.56 13.88	1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
951 135	TEST DATE:		8	r P R	1.427 1.479 1.438 1.776	202 202 203 203 203 203 203 203 203 203
				F/A CALC	20100	2 1 2 1 0 C C C C C C C C C C C C C C C C C C
			1828 1828 36.8 26.55 54.8627	F/A ACT	2222	FUEL NOX 1.95 7.98 8.99
S. Y.		£ 5	L 50 57 1-	FLOW #/HR	1+3423 526458 582579 622649 634748	1 # 8 # # 1
GY INC. S INVENT	r	-P3 HRS. PASS J : HELLMO	S: START 945 35.8 36.8 1 8.8827	FJEL FLOW #/HR	3215 5288 7416	CE5: # / 1# CU CU2 CU2 CU2 CU2 CU2 CU2 CU2 CU2 CU2
ECHNOLO MISSION TREPOR	AN. TYPE H	1F33-P 953 # H LIS : P	MOITION 6.F): (14.HG) (*): AIR):	THRUST	999 12132 14897 16566 1748	117.46 85.85 11.87 2.35 1.87 2.35 8.63 1.87 8.53 1.77
MENTAL TENGINE E		MODEL : 642 IIHE : EST RESU	VIMONMENTAL CUN TIME (MIL.TIME T AIM TEMP. (DEG SCHERIC PRESS. ( TIVE MUMIDITY T AIM MUMIDITY (SM MOMIDITY		74 74 99 181	# ISSION I
SCOTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENTI	SCOTT 1531 11008	ENGINE TYPE & MODEL: TF33-P3 ENGINE SEPTAL #: 642953 TOTAL ENGINE TIME: ###85. PERFORMANCE TEST RESULTS: PASS ATM FLOW MEASHPEMENT METHOW: HELLMOUTH	TEST ENVIRONMENTAL CUNDITIONS TEST TIME (MIL-TIME): INLET AIM TEMP. (DEG.F): ATMOSPHERIC PRESS.(IN.HG): MELATIVE HUMIDITY (*): IHLET AIM HUMIDITY - (SM AP@/GM ORY AIR):	1EST 405E	IDLE INTERMED. 1 INTERMED. 2 MILITARY TAKE-DFF	CAMAUST WASS EMISSION INDICES   CONTROL   CO

18/76	3EH 3	AFB 9 C : 2T	8 8	95.68 14.43 8.87 8.87 5.94	SN SMOKE*	6.6231 7 6.6231 6.4231	33 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
E 18/	7. NUMBER		OPERATOR	. 4	N N	10.51 54.67 54.51	SOX 1.31 9.31
REPOHI DATE BB/18/76 USAF CONTRACI F29681-75-C-8846	ENGINE 7	1 LOCATION : TINKER : TEST CELL NUMBER : TEST CELL OPERATOR SCOTT SUPERVISOR	SHOKE OPER	FUEL ANALYSIS: SAMPLE #: I4 TYPE: JP-4 WIT.% CARBON: WIT.% HYOROGEN: WIT.% HYOROGEN: H/C RAIIO-MASS:	NOS	6.#7 11.43 12.35	NO2 1.47 11.15 19.61
FE CONTRAC	•	TEST LOCATION TEST CELL FEST CELL SCOTT SC	S	FUEL SAMPL TYPE TYPE TYPE TYPE TYPE CHT &	N d	2.41 43.33 62.22	NO NO 42.25 65.25 65.25
USAF		2			X OV A	84.76 54.76 74.57	NOX NOX 2.86 53.48 78.57
				E 6 • F	c02	1.89	C02 2535 18584 23878
\$	76			: 23 LPM E : 300 DEG.F 60 FT.	00 d	532.79 29.32 25.78	C0 78.7 17.44
SET 1492-089-8876	TE: 2/21/76			SAMPLE LINE : FLOW RATE : 23 L TEMPERATURE : 38 LENGTH : 108 FT.	THC PPMC	12.87.55 13.91 15.12	1 HC 1 HC 1 HC 1 HC 1 HC 1 HC 1 HC 1 HC
SET	TEST DATE			v	a G H	1.548 1.548 1.782	1.57 1.57 1.78
					F/A CALC	.886 .818 .811	NO NO 7 - 81 8 - 89
				FINISH 1786 43.8 28.77 29	F/A ACT		FUEL NOX 2-24 8-98 18-65
ORY			итн		FLOW #/HR	143#16 56258# 618351	1888# 12 862 12 55 1
GY 1VC.	<b>4</b>	13 145.	: אזרראנ	15 : START 1318 41.8 41.8 46.6 46.8 46.8 46.8 46.8 46.8 46.8 46	FJEL FLOW #/HR	438 5944 7376	* 1
MISSION T REPUR	69. TYPE	7F33-F 953 LTS : F	MET-100	NDITION (E): (G,F): (IN+HG) (6): AIR):	THRUST *	971 135#8 15395	ON INOIGE THC C 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
MENTAL TENGINE E		. MODEL : # : 542 TIME : EST RESU	SUPEMENT	VIRONMENTAL CONDITII  TIME (MIL.TIME): F AIR TEMP. (DEG.F) SPHERIC PRESS. (IN.HI TIVE HUMIDITY (4): T AIR HUMIDITY - (6M HORJYGM DRY AIR)	RATEO POWER	98 99	1 HC THC THC THC THC THC THC THC THC THC
SCOTT ENVINONMENTAL TECHNOLOGY 1VC. USAF TURBINE ENGINE EMISSIONS INVENTO INDIVIOUAL ENGINE TEST REPURT	SCOTT TEST NUMBER	ENGINE TYPE & MODEL: TF33-P3 ENGINE SERIAL #: 642953 TOTAL ENGINE TIME: # MAS. PERFORMANCE TEST RESULTS: PASS	AIR FLOW MEASUPEMENT METHOD : HELLMOUTH	TEST ENVIRONMENTAL CONDITIONS:  TEST TIME (MIL.TIME): INLET AIR TEMP. (DEG.F): ATMOSPHERIC PRESS.(IN.HG): RELATIVE HUMIDITY (+): INLET AIR HUMIDITY (GM HOSG/GM DRY AIR):	TEST MODE	10LE INTERMED. 2 MILITARY	EXHAUST WASS FYISSION INDICES:

SET 1492-088-8876  TEST 0ATE : 4/ 6/75  TEST 0ATE : 4/ 6/75  TEMPERATURE : 38 0EG	REPORT DATE 88/18/76 USAF CONTRACT F296#1-75-C-#846	ENGINE 7. NUMBER 4	TEST LOCATION: TINKER AFB TEST CELL NUMBER: 9 TEST CELL OPERATOR: B SCOTT SUPERATOR: 261	SMOKE OPERATOR : 00	FUEL ANALYSIS : SAMPLE # : 16		WT.% HYDROGEN : 14.57 WT.% SULFUR : 0.05	H/C RATIO-ATM: 2.85 C/H RATIO-MASS: 5.86	NO NO NOS SMOKE	PIC ELL
MULGGY INC.  SIONS LAVENTORY  SIONS LAVENTORY  TYPE B  B HRS.  B PASS  B PASS  SAM  TIONS : FALMOUTH  1815 1185  1815 1185  1815 1185  1815 1185  1815 1185  1815 1185  1815 1185  1815 1185  1815 1185  1815 1185  1815 1185  1815 1185  1815 1185  1815 181						E6.F			C02	P
MULGGY INC.  SIONS LAVENTORY  SIONS LAVENTORY  TYPE B  B HRS.  B PASS  B PASS  SAM  TIONS : FALMOUTH  1815 1185  1815 1185  1815 1185  1815 1185  1815 1185  1815 1185  1815 1185  1815 1185  1815 1185  1815 1185  1815 1185  1815 1185  1815 1185  1815 181	2	775			: 23 LPM	RE : 386 0			0 2	F L
MULGGY INC.  SIONS INVENIORY  SIONS INVENIORY  TYPE B  33-F3  9 HRS.  1 PASS  HOD: HELMOUTH  TIONS: START FINISH  1 1815 1185  1 64.8 69.8  HG): 2A.61 29.61  1 64.8 69.8  R): 8.8883 8.8848  UST FLOW FLOW F/A EPR	492-DBA-88	TE: 4/ 6,			AMPLE LINE FLOW RATE	TEMPERATU			14C	1
MULOGY INC. SIONS INVENIONY E WAS INVENIONY B HAS. : PASS : PASS : HOS : START FINISH : 1815 1185 : 64.8 69.8 : 64.8 69.8 : 64.8 69.8 : FJEL AIR EJEL AIR UST FLOW FLOW F/A F/A	SET 1	TEST OA			S				EPR	
MULGGY INC.  SIONS INVENTORY  EPURI  TYPE B  33-F3  # RASS  : PASS  : PASS  : PASS  : 10NS : START FINI : 1815  : 64.8  : 64.8  : 64.8  : 64.8  : 64.8  : 64.8  : 64.8  : 7.10  E. 64.8  : 1815  : 181									4/4	נאנ
NOLGGY INC. SIUNS 1 VVENTORY TYPE B 33-F3 HOD : HELLHOUTH TIONS : START F : 64.8 HG) : 64.8 HG) : 64.8 R) : 8.8883 8 R) : 8.8883 8					INISH	1185	29.61 51	9499.	A/A	- V
SCOTT ENVIRONMENTAL TECHNOLOGY INC. USAF TUP9INE ENGINE ERISSIONS INVENTO INDIVIDUAL ENGINE TEST REPORT SCOTT TEST NUMBER 93. TYPE B ENGINE SERIAL #: 642614 TOTAL ENGINE TIME: # HAS. PERDAMANCE TEST RESULTS: PASS AIM FLUM MEASUMEMENT METHOD: HELLMOUT TEST TIME (MIL.TIME): 1818 TEST TIME (MIL.TIME): 64.8 ATMOSPHERIC PRESS.(IN.HG): 63.8 INLET AIR TEMP.(OEG.F): 64.8 ATMOSPHERIC PRESS.(IN.HG): 63.8 INLET AIR HUMIOITY (#): 63.8 INLET AIR HUMIOITY (#): 63.8 INLET AIR HUMIOITY (#): 65.8 INLET AIR HUMIOITY (#): 67.8	ř			ī					FLOW	U
SCOTT ENVIRONMENTAL TECHNOLOGOUSAF TUPPINE ENGINE EMISSIONS 1ND1V1DVJAL ENGINE EMISSIONS 1ND1V1DVJAL ENGINE EMISSIONS 1ND1V1DVJAL ENGINE TEST REPURT 5CUTT TEST NUMMEN 93, TYPE ENGINE SEMIAL #: 642614 107AL ENGINE TIME: 107AL ENGINE TIME: 107AL ENGINE TIME: 107AL ENGINE TIME: 107AL ENGINE 110A MEASIVEMENT METHOD: 1EST TIME (MIL, TIME): 1NLET AIR TEMP. (OEC.F): ATWOSPHERIC PRESS. (1N.HG) MELATIVE HUMIOITY (%): 1NLET AIR HUMIOITY (%): 1NLET AIR MUMIOITY (%): 1NLET AIR MUMIOITY - (GM MPACGM ORY AIR): 1EST MOUE	Y INC.	n	SS	HELLMOU			ς. Ψ.	8.848.8	FJEL	*/ דור
SCOTT ENVIRONMENTAL 1 USAF TUP91NE ENGINE E 1ND1V1DVJAL ENGINE TES 5CUTT TEST NUMHER S ENGINE SERIAL #: 642 10TAL ENGINE TIME; PERFORMANCE TEST NESI A1M FLUM MEASUMEMENT TEST TIME (MIL, TIME INLET A1R TEMP, 108 ATMOSPHERIC PRESS MELATIVE MUM101TY INLET A1R TEMP, 108 ATMOSPHERIC PRESS MELATIVE MUM101TY INLET A1R HUM101TY	ECHNOLOG	3. TYPE	1533-63	METHOD:	NOITIONS	(E) :	(#) (#)	AIR) :	THRUST	
SCOTT ENVINO USAF TUP-JINE INDINIDUAL E SCUTT TEST N ENGINE SERIA TOTAL ENGINE PERFORMANCE AIM FLUM MEA TEST ENVIROM TEST TIME INCET AIM ATMOSPHER INCET AIM TEST MOUE	ENGINE TE		4 MODEL :	SUMEMENT	MENTAL CO	(MIL. TI)	IC PRESS.	HUM101T	RATED	2 1 2 2
SCOTT	ENVINO TURAINE IDIJAL E	rest N	E SERIA ENGINE	LUM MEA	ENV 1 HON	ST TIME	40SPHER LATIVE	LET A18	MODE	
	SCOTT USAF 1VD1V	20011	EVGIN TOTAL PERFO	AINF	TEST	FZ	A X	2	TEST	

			BAPT / #	=		*				Ϋ́Ι \ *			
	THC		Ĭ	NON	25	30N	THC	၀	C02	XON	9	N02	50x
			ï		-								
10LE	77.54	79.52	2789	1.87	65.8	1.39	71.41	73.2	5569	1.73	8.45	1.28	1.92
4E0. 1	48.8			7.13	6.34	8.8	49.4	15.4	17221	39.38	34.97	4.41	5.51
4E0 - 2	8.52			8.24	1.47	9.75	3.32	13.2	58899	53.02	48.IB	4.92	6.43
ARY	0.34			9.92	9.60	6.95	2.57	11.8	23934	76.82	68.94	7.88	7.65
356	B.20			18.52	44.7	1.85	2,33	4.8	24295	23.85	75.62	64.6	7.96

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6.32 5.49 7.41 8.68

2.23 43.51 55.48 72.28

8.55 49.68 61.87 79.61 86.34

1.33 2.24 2.42 2.62 2.68

595.87 31.46 24.98 28.35 18.19

1814.27 16.56 18.96 7.73

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927 12169 14887 16329 16954

74 85 99 103

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10LE INTERMED. 1 INTERMED. 7 HILITARY

EMISSION INDICES

EXMAUST MASS

ENGINE TF33-P7

8/76	JER 1	AFB • C • ZI • PR • D0	55.83 14.48 6.88 5.96	SHOKE*	231 231 231 231 231		្រែស្លេខ <b>៤</b>
E #8/1	• NUM				15.11 51.11 52.11 51.51	SOX	1.84 9.95 12.25 14.28 16.64
REPORT DATE #8/18/76 USAF CONTRACT F296#1-75-C-##46	ENGINE 18. NUMBER		FUEL ANALYSIS: SAMPLE #: 13 TYPE: JP-4 MI-8, CARBON: MI-8, HYDROGEN MI-8, SULFUR: H/C RATIO-ATM-	N02	5.08 11.65 14.82 17.94	N02	1.21 11.84 15.62 29.14 25.57
RE CONTRAC	_	TEST LOCATION TEST CELL TEST CELL SCOTT SI NSTRUMENT	FUEL SARPL TYPE TYPE TT.8 HIT.8 C/H R	2 d	2.93 33.86 45.13 58.43 78.38	0	31-33 47-58 65-76 94-88
USAF		<b>F</b>		X M	8-#1 44.71 59.95 76.33	NOX	1.91 42.37 63.28 85.98 119.57
			EG•F	c02	2.15 2.15 2.38 2.68	200	3173 19488 24888 27988 32611
	9		23 LPM : 388 OEG.F 18 FT.	0 %	688.54 26.67 16.69 12.28 18.91	8	2011 2011 2011 2011 2011 2011 2011 2011
SET 1492-D08-8076	'E : 2/12/76		SAMPLE LINE: FLOW RATE: 23 L TEMPERATURE: 38 LENGTH: 188 FT.	THC PPMC	982.99 18.45 7.38	# DHC	75-14 3-45 2-94 2-94 2-79
SET 14	TEST DATE :		ν,	EPR	1.825 1.585 1.585 1.826 1.992	NO2	22.28
				FIA	8 6 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 2	4 4 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
			FINISH 938 55.69 888 888	F/A ACT	688		1.69 8.28 9.62 11.49
, A		I I	F 66 66 7	FLOW */HR	141831 588495 652988 689896 735683	25 25	
1 NENT	70	95 55 85	528-7 896-7 58-7 89	FJEL FLOW #/HR	1128 5226 7662 3933 19487		i
TECHNOLOGY INC. EMISSIONS INVEN	67. TYPE	F33-P7	VOITIONS 5.F) : (IN*HG) (*) : AIR) :	THRUST	1013 13735 16718 18989 21376	ND16ES	88-72-22-22-22-23-23-23-23-23-23-23-23-23-23
AL TECH NE EM 1 TEST		EL : T 65152 : RESULT ENT ME	.TIME) .(UEG. ESS.(1) ITY (* DITY -		•	SION I	66.61 4.55 4.38 4.27
ENGINE	WINNER	& MODI	VIRONMENTAL CON TIME (MIL.TIME T AIR TEMP. (DEG SPHERIC PRESS. TIVE HUMIDITY T AIR HUMIDITY (GM HPB/GM DRY	AATED POWER	1 7 8 3 3	S EM1S	
SCOTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENT INDIVIDUAL ENGINE TEST REPORT	SCOTT TEST NUMBER	ENGINE TYPE & MODEL: TF33-P7 ENGINE SERIAL #: 651524 TOTAL ENGINE TIME: # #RS. PERFORMANCE TFST RESULTS: PASS AIR FLOW MFASUREMENT METHOD: HELLMOUTH	TEST ENVIRONMENTAL CONDITIONS TEST TIME (MIL.TIME): INLET AIR TEWP.(UEG.F): ATMOSPHERIC PRESS.(IN.MG) PELATIVE HUMIDITY (*): INLET AIR HUMIDITY (*): (GM HP@/GM DRY AIR):	TEST MODE	IDLE INTERMED. 1 INTERMED. 2 MILITARY TAKE-OFF	EXMAUST MASS EMISSION INDICES	10LE INTERMED. 1 INTERMED. 2 MILITARY TAKE-OFF

\*\* AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE AREA-WEIGHTED.

REPORT DATE 86/18/76 USAF CONTRACT F29681-75-C-8646	ENGINE 10, NUMBER 2	TEST LOCATION: TINKER AFB TEST CELL NUMBER: 9 TEST CELL OPERATOR: C SCOTT SUPERVISOR: ZGT INSTRUMENT OPERATOR: ZGT SMOKE OPERATOR: DO	FUEL ANALYSIS; SAMPLE # : 16 TYPE : JP-4 WIT-8 HVORDGEN : 14-57 WIT-8 SULFUR : 6-05 H/C RATIO-MASS: 5-86	NDX ND NO2 * SMDKE* PPH PPH SN W/A	1.72 6.93 18.85 58.99 85.31 6.18 49.86 85.31 6.28 49.86 85.36 46.88 126.87 12.14 39.88	NUX ND ND2 SDX 1.95 6.39 1.56 1.86 58.95 45.43 5.51 6.18 65.83 59.94 5.89 7.84 181.79 93.89 8.78 8.68 157.99 144.19 13.88 18.32
			23 LPH : 320 DEG.F 8 FT.		2 2 2 2 4 2 2 4 2 2 4 2 2 4 2 2 4 2 2 4 2 2 4 2 2 4 2 2 4 2 2 4 2 2 4 2 2 4 2 2 2 4 2	C02 2913 19285 21998 26981 32287
SET 1492-D08-0876	TE: 4/ 1/76		SAMPLE LINE: SALPM FLOW RATE: 23 LPM TEMPERATURE: 338   LENGTH: 188 FT.		1118.63 723.78 36.88 723.78 11.54 17.93 7.16 18.77 6.61 7.99	THC CO 87.98 99.4 11.28 14.1 3.82 18.4 2.63 6.9
SET 14	TEST DATE		a.	ос ф.	1.516 1.516 1.628 1.986	
				F/A CALC		ND 8.37 7.35 8.51 18.81 13.96
			FINISH 1187 61.8 61.8 28.28		2 2 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
4TORY		4DUTH	51ART 925 58.68 28.68 38 38		123855 54863 594868 637191 687869	# / 1000# FUEL CO2 NDX 
VOLUGY INC	87. TYPE B	33+P7 # HRS• : PASS 4D0 : BELL			936 1859 13816 5185 15643 7842 19644 9618 21419 18332	. 1987485
IENTAL TECH		MDDEL: TF #: 651471 IME: ST RESULTS REMENT MET	T ENVIRONMENTAL CUNDITIO  FEST TIME (MIL.TIME): INLET AIR TEMP. (DEG.F): AIMOSPHERIC PRESS. (IN. MG AIMOSPHERIC		5 936 73 13816 82 15643 98 19644	AISSION INC 1 1 HC 1 HC
SCOTT ENVIRONMENTAL FECHNOLUGY INC. USAF TURBINE ENGINE EMISSIONS INVENTINDIVIDUAL ENGINE TEST REPORT	SCOTT TEST NUMBER	ENGINE TYPE & MDDEL: TF33+P7 ENGINE SERIAL #: 651471 TDTAL ENGINE TIME: # HRS. PERFD?MANCE TEST RESULTS: PASS AIR FLOW MEASUREMENT METHDO: BELLMDUTH	TEST ENVIRONMENTAL CONDITIONS TEST TIME (MIL.TIME): INLET AIR TEMP.(DEG.F): AT40SPHENTC PRESS.(IN.MG): RELATIVE HUMIDITY (*): INLET AIR HUMIDITY (*): (GM HOMIDITY -	0E	IOLE INTERWED. 1 INTERWED. 2 MILITARY TAKE-OFF	EXHAUST MASS EMISSION INDICES

\*\* AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE AKEA-WEIGHTED

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REPORT DATE \$8/18/76 USAF CONTRACT F29681-75-C-8846	ENGINE 18. NUMBER 2	TEST LOCATION: TINKER AFB  TEST CELL NUMBER: 9  TEST CELL OPERATOR: C  SCOTT SUPERVISOR: 2GT  INSTRUMENT OPERATOR: 2GT  SMOKE OPERATOR: DO	FUEL ANALYSIS: SAMPLE #: 16 TYPE: JP-4 MT-8 CARBON: 85.35 MT-8 HYDROGEN: 14.57 MT-8 SULFUR: 8.85 H/C RATIO-HASS: 5.86	NOX NO NOS SMOKE	1 53.13 6.48 58.88 8 1 50.00 1	124.99 11.78 39.58	/ HR	NOX NO NOS SOX	45.27 5.73	182.12 93.54 8.59 8.58 155.97 142.54 13.43 18.32
			36 0EG.F		2.25 17.67 2.41	7.28 2.96		co cos		5.8 26982 5.1 32288
SET 1492-088-6876	E: 4/ 1/76		SAMPLE LINE: FLOW RATE: 23 LPM TEMPERATURE: 360 DEG.F LENGTH: 188 FT.		:	6.33	•	THC	6-37	2.52
SET 14	TEST DATE :		<b>v</b>	8 8 8	1.516	1.090		20N	6.69	1.69
				F/A CALC	. 118	.015		S	7.32 8.56	13.88
			FINISH 11887 51.8 29.58 25.58	F/A ACT	£ £	. 815 . 815	1303	XON	8.25	11.86
OR.Y		ī	L. 55	A1R FLOW #/HR	548313	687869	1888 FUF	50	12 <b>6</b> 123	124 1
DGY INC. NS INVENT	E C	3-P7 B HKS. PASS	50 START STA	FJEL FLOW #/HR	;	16332	SION INDICES :	00	2.39	
TECHNOL EMISSION ST REPO	88. TYPE C	: 1F334 1471 JLTS :	ME) : EG.F) : (IN.HG	THRUST	13816	18544	14016	1HC	;	
ENGINE LASINE TE		MODEL STIME :	VIRONMENTAL CONDITION  TIME (MIL.TIME): TAIR TEMP. (DEG.F) SPHERIC PRESS. (IN.M. ILVE HUMIDITY (#): TAIR HUMIDITY (#): TAIR HUMIDITY (#):	RATED POWER	73	113	EM155101	Ē	1	5 5
SCOTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENTORY INDIVIDUAL ENSINE TEST REMORT	SCOTT TEST NUMBER	ENGINE TYPE & MODEL : TF33-P7 ENGINE SERIAL # : 6S1471 TOTAL ENGINE TIME : # HMS. PERFORMANCE TEST RESULTS : PASS A*P F.OM MERGINEMENT METHOD : 9511 MOUTH	TEST ENVIRONMENTAL CONDITIONS: TEST TIME (MIL.TIME): IN.ET AIR TERM. (DEG.F): ATMOSPHERIC PRESS.(IN.HG): RELATIVE HUMIDITY (%): IN.ET AIR HUMIDITY (%): (6H MPB/6H DRY AIR):	TEST MOUE	INTERMED. 1	MILITARY TAKE-OFF	EXHAUST MASS EMISSION INDICES		INTERMED. I	MILITARY TAKE-OFF

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				1 <	33333	
3776	e e	AF9 9 9 1 261 2 261	85.35 14.57 #.#5 2.#5 5.86	SHOKE	. 623 6.623 6.623 6.623 6.623	
1-75-C-	9. NUMBE		. 9	S S S	42.42.43.99.99	50X 1.87 6.36 7.21 8.53
REPORT DATE #8/18/76 Act F29681-75-C-##46	ENGINE 18. NUMBER		FUEL ANALYSIS: SAMPLE #: 16 TYPE: JP-4 WT.% CARBON: WT.% HYOROGEN WT.% SULFUR: HYC RATIO-MASS	N 1 0 0 d	8 - 7 8 5 - 2 3 5 - 6 9 6 - 9 8	NO2 1.78 4.44 5.22 7.87
REPORT DATE #8/18/75 USAF CONTRACT F29681-75-C-##46	u	TEST LOCATION TEST CELL TEST CELL SCOTT SL INSTRUMENT SMOKE	FUEL SAMPLE TYPE WIT SE	2 d	1.57 68.96 74.14 188.81	N0 8-32 51-71 68-81 181-27
USAF		Ä		X X	18.27 56.19 79.83 186.99	NOX NOX 2-16 56-15 56-15 73-22 188-34
			G •	c02	1.55 2.45 2.57 2.88	C02 3#35 1988# 22549 2712# 31676
			23 LPM : 398 OEG.F - FT.	0 4	764.85 16.65 12.56 9.62 8.88	95.3
SET 1492-D#8-#876	: 4/ 2/16		SAMPLE LINE: FLOW RATE: 23 L TEMPERATURE: 38 LENGTH: 184 FT.	THC	854-16 7 15-65 11-86 9-14	1 HC 1 HC 66.95 4.63 3.77 3.23 3.823
SET 149	TEST DATE		A A A B B B B B B B B B B B B B B B B B	EPR	1.683 1.581 1.513 1.778 1.943	N   N   N   N   N   N   N   N   N   N
				F/A CALC	# # # # # # # # # # # # # # # # # # #	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
			F1N1SH 1445 79.8 28.58 23 8.8858	F/A ACT	912 912 913 914	<b>'</b>
OR <sub>Y</sub>		Ŧ	£ 2 .	FLOW FLOW	122292 531885 572389 614272 656217	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Y INC.	r	HAS. PASS	START 1348 1348 79.4 24.41	FJEL FLOW #/HR	1872 5367 7219 9688 18137	#   CC   #
CHNOLOG 15510NS REPORT	89. TYPE	TF33-P7 54 9 H3 TS : PA ETHUD :			988 13834 15778 18483	SION INDICES: THC CO S6.86 88.99 9.73 1.35 9.52 9.97 9.37 9.68
ENTAL TENTAL TENTAL TENTAL TEST		MGDEL: #: 6513 1ME: ST RESUL REMENT M	VIRONMENTAL CONOITI  TIME (MIL.TIME): T AIR TEMP. (DEG.F) SPHERIC PRESS. (IN.H TIVE HUMIDITY (%): T AIR HUMIDITY -		5 73 83 97	415510N IN 1 HC 56.86 86.73 86.87 86.87
SCOTT ENVIRONMENTAL TECHNOLOSY INC. USAF TURBINE ENGINE EMISSIONS INVENTI	SCOTT TEST NUMBER	ENGINE TYPE & MODEL: TF33-P7 ENGINE SERIAL *: 651354 TOTAL ENGINE TIME: \$ # HAS. PERFORMANCE TEST RESULTS: PASS AIR FLOW MEASUREMENT METHOD: BELLMOUTH	TEST ENVIRONMENTAL CONDITIONS:  TEST TIME (MIL.TIME): INLET AIR TEMP. (DEG.F): ATWOSPHERIC PRESS. (IN.HG): RELATIVE HUMIDITY (%): INLET AIR HUMIDITY =: (GM H2@/GM ORY AIR):	TEST MODE	IDLE INTERMED. I INTERMED. 2 MILITARY TAKE-OFF	EXHAUST MASS EMISSION INDICES  THC CO THC CO INTERMED. 1 9.73 1. INTERMED. 2 8.52 8. MILITARY 6.37 8.

\*\* AVERAGE CONCENTRATION AND MASS EMISSION DATA ARE AREA-WEIGHTED.

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94	4	26T	5.35 8.95 2.95 5.95 5.95 5.96	KE*	6.6231 6.6231 6.6231 6.6231		
E 68/18/	I. NUMBER	<b>4</b>		SNOKE SNOKE	6 6 8 6 9 6 9 9 5 9 9 5 9 9 5 9 9 5 9 9 9 9 9	SOX	1.61 6.31 7.23 8.86 16.61
REPORT DATE #8/18/76 USAF CONTRACT F296#1-75-C-##46	ENGINE 10. NUMBER	-	FUEL ANALYSIS: SAMPLE #: 16 TYPE: JP-4 WT-8 CARBON: WT-8 SULFUR: WT-8 SULFUR: H/C RATIO-MASS:	N D N D N D N D N D N D N D N D N D N D	04.08 04.08 04.09 04.09 04.09	N02	1.38 4.38 5.21 7.74 16.82
CONTRAC		TEST LOCATION TEST CELL TEST CELL SCOTT SU INSTRUMENT	SAME SAME TYPE TYPE C/H	N d	2.81 59.28 61.56 84.78	9	9.43 44.19 58.43 88.91 129.86
USA		F		NOX	8.58 55.18 67.85 92.87 118.48	NOX	_
			)EG•F	C02	2.35	C02	2856 19716 22668 27519 31299
	9,		23 LPM : : 388 OEG.F :8 FT.	034	686.72 22.52 14.55 18.77	00	88 85 7 4 8 4 8 8 8 8
SET 1492-D88-3876	TE: 4/ 6/76		SAMPLE LINE: S3 L FLOW RATE: 23 L TEMPERATURE: 38 LENGTH: 100 FT.	THC PPMC	845.53 7.13 5.61 7.60	*	52.86 2.86 2.818 1.818 1.64
SET 1	TEST DATE		V	FPR	1.826 1.524 1.637 1.816	CON	1.37 9.68 8.72 8.88
					6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	02	6.48 6.98 8.07 18.16
			FINISH 2025 53.0 28.50 58		# # # # # # # # # # # # # # # # # # #	FUEL	7.79 8.79 8.99 8.98
TORY		HING		FLOER ATRE	132998 567159 611778 658868	/ laya# FUEL CO2 NOA	2819 3123 3124 3125 1125
SY INC.	r	SS. 11C BELLMC	28 8 68 6 4 5 5 5 6 6 5 6 6 6 6 6 6 6 6 6 6 6 6	FUEL FLOW */HR	1413 5314 7237 3884 1##15		
TECHNOLOGY INC. EMISSIONS INVEN	94. TYPE	1533-97 638 8 HRS. LTS : FAIL	MOITIONS 5.F) : (IN-HG) (F) :	THRUST #	14858 14858 15988 19865 28988	SION INDICES :	no .
MENTAL TI ENGINE EI IGINE TES		. # : 651 TIME : EST RESU	VIRONMENTAL CON TIME (MIL.TIME T AIR TEMP. (OEG SPHERIC PRESS. ( TIVE HUMIDITY (GM HOM/GM ORY		74 74 84 99	EMISSION 1	62.05 0.35 0.35 0.19
SCOTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS INVENT	SCOTT TEST NUMBER	EYGINE TYPE & MOUEL : TF33-P7 EYGINE SERIAL #: 65163# TOTAL ENGINE TIME : # HRS. PERFORMANCE TEST RESULTS : FAIL A17 FLUM MEASUREMENT METHOD : HELLMO	TEST ENVIRONMENTAL CONDITIONS TEST TIME (MIL.TIME) : INLET AIR TEMP. (OEG.F) : ATMOSPHERIC PRESS. (IN.HG): PELATIVE HUMIDITY (#) : IMLET AIR HUMIDITY (#) : (GM HOMLOTY AIR) :	TEST MOUE	JOLE INTERMED. 1 INTERMED. 2 MILITARY TAKE-OFF	EXHAUST MASS EMISSION INDICES	ARY DFF

EMISSION DATA AND MASS .. AVERAGE CONCENTRATION

76	4	8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00	55,35 (4,577 (8,85 (8,85 5,86	*/E*	6.6231 6.6231 6.6231				
REPORT DATE #8/18/76 ACT F29681-75-C-8846	ENGINE 18, NUMBER	<b>4</b>	ATOK :		* SMOKE*	50.93 47.98	•	SOK	1.47	
PORT DAT	NGINE 14		OKE OPER	FUEL ANALYSIS: SAMPLE #: 16 IYPE: JP-4 NI.% CARBON: NI.% CARBON: NI.% SULFUR: H.C RATIO-MASS:	NO2	6.55 8.64 14.88		N02	1.49 9.62 12.21	
REPORT DATE #8/18/76 USAF CONTRACT F296#1-75-C-8#46	W	TEST LOCATION TEST CELL TEST CELL SCOTT SU	ילי י	FUE WE IN SECTION OF THE SECTION OF	N Q Q Q	1.4# 57.68 79.66		2	68.89	
USAF		21			X OV OX OX OX	7.95 56.24 98.46	¥	XON.	1.81 69.11 182.32	
				E G • **	200	1.34		C02	2928 22429 26977	
	. 9,			23 LPM 2 : 388 OEG.F 38 FT.	00 A	743.48 14.63 9.86		00	183.2 9.3 6.8	
SET 1492-088-8876	E: 4/ 7/76			SAMPLE LINE: FLOW RATE: 23 L TEMPERATURE: 38 LENGTH: 188 FT.	THC	1178.92 1.98		THC	93.87 8.72 8.24	
SET 14	TEST DATE :			ζ,	EPR	1.512		402	1.64	
					F/A CALC	688		2	8.38 8.37	
				FINISH 1158 64.8 28.58 73	F/A ACT	669	<u>.</u>	NOX	1.69 9.63 11.85	
٥. د ۲			UIH		FLOW #/HR	131639 614283 659312	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		36 25	
SY INC.	4	-P7 H45. FA1L	: HELLMO	5 : START 935 65.8 65.8 78 8 8 68 9 7	FJEL FLOW	1878 7179 9632				
ECHNOLO MISSION	95, TYPE A	1F33-P	METHOD	MUITION G.F.: (IN.HG) (7): AIR):	THRUST	1818 15942 18738	INOICE			
MENTAL T ENGINE E		. MODEL :	UREMENT	VIRONMENTAL CONDITION TIME (MIL.TIME): TAIR TEMP. (DEG.F): SPHERIC PRESS. (IN.HG): TIVE HUMIDITY (*): TAIR HUMIDITY -* TAIR HUMIDITY -* (GM HORGAM ORY AIR):	8 RATED POWER	2 48 9	EMISS10W	THC	96.49 84.18	
SCOTT ENVIRONMENTAL TECHNOLOGY INC. USAF TURBINE ENGINE EMISSIONS 14VENTORY INDIVIDUAL ENGINE TEST REPORT	SCOTT TEST NUMBER	ENGINE TYPE & MODEL : TF33-P7 ENGINE SERIAL # : 631639 TOTAL ENGINE TIME : # HMS. PERFORMANCE TEST RESULTS : FAIL	AIR FLOW MEASUREMENT METHOD : HELLMOUTH	TEST ENVIRONMENTAL CONDITIONS: TEST TIME (MIL.TIME): INLET AIR TEMP. (DEG.F): ATMOSPHERIC PRESS. (IN.HG): RELATIVE HUMIDITY (#): INLET AIR HUMIDITY (#): (GM HOB/GM ORY AIR):	TEST MODE	IOLE INTERMEO. 2 MILIȚARY	EXHAUST MASS EMISSION INDICES		10LE 1NTERMEO. 2 MILITARY	

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